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Omens and Divination in Early Tamil Religion

By

S. K. GOVINDASAMI, M.A.

Belief in omens, either as a sign of good luck or as a warning of misfortune, is universal even to-day. It is admitted on all hands that it is the common feature of all primitive culture. Belief in omens has been developed on the basis that occurrences which are not apparently connected as cause and effect are really connected. It is built up on an empirical foundation; and mal-observation of chance coincidences is the root of omens. At the moment a man is dying an owl might have screeched, and to the mind of the people worried over the condition of the man, the screeching appears as portentous of death. From such coincidences, in course of time, it is generalised that all hootings of the owl are bad omens. Thus has developed belief in a variety of omens. There is the natural desire of man, moreover, to penetrate into the unborn future and to learn of things that are still in the lap of nature. It is this desire which drives man to look for any sign of the future in bird-calls, in the movement of animals and the human body itself, and in the ever-changing face of the heavens.

Strong belief in omens and their value to man has necessitated their interpretation by experts. Thus divination came into existence.

"By divination is meant the endeavour to obtain information about things future or otherwise removed from ordinary perception, by consulting informants other than human"¹ writes Mr. H. J. Rose. Though different means of divination are employed, it is mainly of two kinds, viz., voluntary and involuntary. Divination of the first sort consists of seeking after omens which are "interpreted, so to speak, in its own right with no thought of appeal to any supernatural power, god or spirit".² The second variety is divination proper, and in the strict etymological sense of the word it means an enquiry of "some sort of a deity, generally by means of signs conceived of as being sent by him."³

Now turning to the early Tamil religion, we find abundant material in literature to prove the deep-rooted faith of the Tamils in omens. The words *virichchi*, *nimittam* and *puḷ* in the Tamil language denote portents. The history of the last word is interesting. Its original meaning is a bird. But on account of the antiquity and universality of bird-omen, the word has come to mean omen in general. In the commentary of Nachchinarkkiniyar on *sūtra* 58 of *Tolkappiyam*, *Purattinaiyal*, the word occurs with an epithet as *paṛavāpuḷ* or the bird that does not fly is a omen. There is not a single activity of every-day life that does not require the consultation of the omens. Princes and peasants and thieves too attached great value to omens. Different means of interpreting them also obtained in the early period of Tamil literature.

Divination from birds and beasts is most common not only in the country of the Tamils, but all other countries of the world. This universal belief in bird-omen might have been due to their capacity to go nearer heaven than man, and primitive man would have concluded from this that the bird is in a position to know what is in the lap of gods. The English idiom,—a bird has whispered into one's ear—must have had its origin in a similar belief. A young woman separated from her husband consults the bird-call to find signs of their early reunion.⁴ The early Tamil king had trained interpreters in his service who were sent out to study the flight of birds just as the army moved on a cam-

1. Hasting's *Encyclopaedia of Religion*, Vol. iv, p. 775.

2. *Op. cit.*, p. 776.

3. *Op. cit.*, p. 776.

4. *Kuruntogai*, v. 218, l. 4.

paign.⁵ It appears that the people have believed that according as the determination with which a king goes forth to battle to win it, so the birds voluntarily appear and give good omen.⁶ Fisher-folk before going afishing, have the custom of consulting omens.⁷ Thieves are said to depend on eight things for success in his art and omen is mentioned as one of them.⁸

Besides birds, some reptiles are also considered as indicators of omens. The tittering of lizards on the walls of houses has been and is even now taken to be portentous. A young woman pining for her lord hears the lizard tittering, and interpreting it as predicting the arrival of her husband, she blesses the lizard.⁹ This practice of blessing the omen animal is a practice widely prevalent.¹⁰ Here is a passage from a *Saṅgam* classic, the *Kuruntogai*, which refers to the omen of the chameleon :

“He has seen on that road to the desert where travellers look for the good omen of the grown up, a sickle-backed male chamelion”.¹¹

It must be pointed out here that not all animals are ominous to all people. They depend on particular environments. Here is an instance in point. Kōvalan, the hero of the *Epic of the Anklet*, goes forth from that portion of the city of Madura which is the dwelling place of shepherds and cowherds. Right across his path rushes wildly a humped bull. Kōvalan could not know that it is a bad omen, because he is not a shepherd, but the son of a merchant.¹² Kōvalan's execution is considered to be indicated by this omen.

Professional augurs could foretell the future by the study of physiognomy. This method of divination too obtains in early Tamil religion. An augur enters the court of a Chera king when his younger

5. *Mullaippāṭṭu*.

6. *Silappadikāram*, p. 320, l. 10.

7. *Narṇinai*, v. 4.

8. *Silappadikāram*, p. 425, ll. 166-169.

9. *Narṇinai*, v. 169.

10. *Encyclopaedia of Religion*, vol. iv.

11. v. 140, ll. 1-3.

12. *Silappadikāram*, p. 422, ll. 100-101.

son is sitting on his lap. The heir-apparent to the throne, *Senkuṭṭuvan*, is sitting by the side of his father. The fortune-teller looks closely at the face of the younger prince and predicts that he would become a king.¹³ Beautiful women decked in jewels are regarded as good omen.¹⁴ Mishaps of man are believed to be an index of coming misfortune. The idea that a small mishap of any kind is a forerunner of a greater one is common to many primitive people.

The natives of Torres Straits, though skilled in dugong fishing, sometimes returns empty-handed with their harpoons broken, and this event is generally regarded as a mishap.¹⁵ Nearly a similar incident is described in a poem of *Narrinai*. A hunter aims an arrow at a stag which it misses. This is taken to be an ill-omen. He interprets the ill omen as indicating the presence of the angry god of the mountain and feels that if the rains fall, he would be assuaged.¹⁶

A kind of divination which may be described as voluntary obtained in the early Tamil period. It is called *virichchi* or seeking for a good word. When the army begins its campaign augurs are sent in advance of the army to study the omen of any chance good word.¹⁷ Elderly women augurs too are employed for *virichchi*. In *Mullaip-pāṭṭu*, the consort of a king campaigning, unable to endure the pangs of separation, sends the matrons outside the town to get good words. It is described as follows :

“The matrons scatter the paddy and *mullai* flowers and stand praying for the good word. (That way) comes a cowherdess leading by a rope a tender calf which calls to its mother. She consoles the calf by saying “your mother comes behind, being driven by cowherds with crooks. She will presently be with you”.¹⁸

Here the good word is the chance utterance of the cowherdess, “she will presently be with you.” That is interpreted as pointing to the

13. *Op. cit.* p. 590. ll. 174-175.

14. *Narrinai*, v. 40, l. 4-5.

15. *Encyclopaedia of Religion*, Vol. IV, p. 780.

16. v. 16.

17. *Tolkāppiam* : *Puṟattiṇai-iyal*, Sūtra, 58.

18. ll. 8-16.

early return of the king from war. Sometimes the paddy alone is thrown in water as a preliminary of watching for good word.¹⁹

One important form of involuntary divination, says Mr. H. J. Rose, "concerns the portents exhibited by the heavens, Eclipses, storms, and unusual atmospheric conditions would naturally be regarded from the earliest periods as manifestations of divine anger."²⁰ Identical beliefs have been held by the early Tamils. But, except in a single case, the interpretation of such abnormal phenomena is not clear. In a poem of *Puṛaṇānūṟu*, a poet observes that seven days before the death of the Chera king Māntaram Irumpoṟai, a star had fallen from the sky in the southerly direction.²¹ Another instance is the flight of the planet Venus away from its ambit in the southerly direction which is said to have predicted the death of the chief Paṇṇan.²² We understand from *Paṭṭinappālai* that the river Kauveri never dries up even if Venus flies south. This would negatively imply that the southward drift of the planet was a premonitory sign of the failure of rains.²³ Apart from this vagrancy of stars and planets, the failure of milk to solidify into curds, of butter to melt into ghee and similar uncommon occurrences are always portentous of evil outcome.²⁴ Miraculous happenings also are looked upon as ominous. In Madura, it is said that the doors of the temple of goddess, Koṟṟavai could not be opened at all and it was interpreted as being fraught with evil consequence for the king and people.²⁵

Cases of the employment of mechanical means in the practice of the mantric art are also found in the Tamil country of the past. In cases of illness of children, the parents call in the female augur and consult her as to the cause of illness. Landtman, in his scholarly enquiry into origin of social inequality, observes that primitive man cannot "as a rule form proper conception of illness and he is equally at a loss before

19. *Puṛaṇānūṟu*, v. 280, ll. 6-17.

20. *Op. cit.*, p. 785.

21. v. 229, l. 12.

22. *Op. cit.*, v. 388.

23. ll. 1-5.

24. *Silappadikāram*, p. 441, ll. 11-16.

25. *Op. cit.*, p. 507, ll. 107-112.

the mystery of death."²⁶ So he attributes illness to the action of an evil spirit. Before the spirit is propitiated in order to cure the illness, it must be specifically known what spirit is the cause of the illness. This could be known only to those conversant with the mantric art. The augur thus called, she throws the keḷangu nuts and from their fall and the odd or even number that results she says such and such spirit has affected the patient.²⁷ Very often, *Vēlan*, the priest of Murugan, the red god of the hills, is consulted under such circumstances. His method of divination is *shamanist*. He dances with the spear in hand as if possessed by Murugan, and in a prophetic frenzy he makes utterances of an oracular character.²⁸

Dreams have always been considered by all peoples of the world as premonitory glimpses into coming events specially sent by gods. Some interesting dreams of historical personages are actually on record in *Silappadikāram*. Certain dreams stage things shaping in the future faithfully as we find them in actual occurrence. Certain other dreams are unmistakably portentous in as much as they leave behind some dread about the future the outlines of which are dim. Some dreams are characterised by symbolic happenings, by the interpretation of which alone one might obtain a foretaste of what is going to happen. In the *Silappadikāram*, just before the fall of the Pandya, his queen dreams a premonitory dream. She dreams that the sceptre and the parasol of sovereignty have toppled down to the dust, and that the bell of justice at the palace gate is sounding incessantly in an alarming manner. She sees in the dream a rainbow at night, and stars falling in daytime.²⁹ From these she understands that something dreadful is going to happen. The following is the description of the dream dreamt by Kaṇṇaki the heroine of *Silappadikāram*.

"My heart trembles. In a dream my lord and I went to a great city. There the people uttered a word which stung me like a scorpion. I heard that some great harm had befallen my husband. I went to the king and disputed with him."³⁰

26. *The Origin of the Inequality of Social Classes*, p. 116.

27. *Narṇṇai*, v. 268.

28. *Ahanānūru*, v. 98.

29. p. 480, ll. 9-12.

30. p. 244, ll. 145-152.

At Madura, in the cowherds' quarter, Kōvalan too dreams a dream which is only replete with ill omen, whereas Kannaki's dream is a revelation of the future in vague outlines. Kōvalan dreams that his clothes are snatched from him and that he rides on the back of a tusked boar.³¹ The commentator says that dreaming as riding on a boar and losing one's clothes is portentous of death. In another work of classical Tamil literature, the poet says that the Cholas dreamed as tasting a fruit in the forest of the chief Alisi of Arcot, before their actual conquest of the country.³² After waking up from a dream, the ancient Tamils would place some auspicious objects in the sight of the dreamer so that the evil consequences of the dream might not occur. When Pāṇḍimādēvi trembles at the remembrance of the terrible dream, her handmaidens place before her flower-garlands, sandal paste, fine silk and cotton fabrics, a box of betels and nuts and incense. What is more, as dwarfs, the hunch-backed, and mutes are regarded as auspicious, the queen is asked to look at them too.³³ If spectacles of ill omen are seen even in a reverie, they are considered portentous. Kiḷḷivaḷavan, a Chola King, is said to have seen in a reverie the sights of his teeth falling, of his smearing of oil on his head, and of the stand of weapons tumbling down.³⁴ This vision is said to have brought about his death.

Thus we find on a study of early Tamil literature that omens and such other superstitions occupied a large part of the life of the ancient Tamils.

31. p. 396, ll. 95-106.

32. *Narāṇai*, v. 87, ll. 3-4.

33. *Op. cit.*, p. 481, ll. 16-21.

34. *Puranānūru*, 41, ll. 3-11.

Flora of Annamalainagar

By

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WITH AN INTRODUCTION BY

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Annamalai University.

INTRODUCTION

India has few books on local flora and it is not always possible for Junior students in University classes to consult books like Hooker's "Flora of British India". Descriptions of local flora are a necessity, especially in seats of University instruction. Books on Flora of the Madras Presidency are very few, these being "Flora of the Presidency of Madras" by Gamble, "Flora of the Madras City and its immediate neighbourhood" by Mayuranathan and Fyson's "Flora of the South Indian Hill Stations". Another attempt at a description of local flora is that of Mr. Fyson who published short descriptive Bulletins of common plants of Madras. But, this did not go beyond a few stray families. These works are mainly descriptive, diagrams being very few. Even where diagrams are provided, they do not bring out clearly and completely, the morphology of the flower.

The flora of the area in which this University is situated has not been described till now and being an institution where advanced teaching in Botany is undertaken a description of the local flora was felt highly desirable. With this object in view, I requested Mr. S. K. Pillai, M.Sc., of this Department to undertake a compilation of the flora of the University area. He has readily taken up the work on hand and it is hoped to provide in instalments a comprehensive descriptive Flora of the local area. Descriptions in full are given and these are supplemented by diagrams, which bring out the floral morphology completely. But, since it is very difficult to give diagrams of each and every species described in the text, they have been limited to one species in each genus.

Books on 'Flora' do not generally give any information about histological details, which, if given, will be of great use to University students. The descriptions in this work, therefore, include some histological details with illustrative diagrammatic sketches.

Chromosome numbers are coming to play an increasingly important role in plant taxonomy. In order to be helpful to the modern cyt-taxonomist, chromosome numbers wherever known, are also given as additional information.

Though the work has been got up mainly for the sake of University students, it is hoped that the diagrams given will easily enable even

others without any elaborate technical knowledge of the subject to use it in identifying plants without difficulty.

Hooker's "Flora of British India," Gamble's "Flora of the Presidency of Madras," Mayuranathan's "Flora of the Madras City" and Bailey's "Standard cyclopaedia of Horticulture" have been freely consulted. The chromosome numbers of plants are mainly based upon Gaiser's and Tischler's lists. Such numbers as are being reported in current numbers of Botanical Journals, as also those that are being determined in this laboratory, have also been incorporated.

BOTANICAL LABORATORY,
18th Feb. 1941.

T. S. RAGHAVAN,
Prof. of Botany.

RANUNCULACEAE

I. *Naravelia zeylanica*. D. C. (Introduced).

A climbing perennial shrub.

Leaves:—opposite, 3-5 foliate compound extipulate, the terminal leaflet generally transformed into a tripartite tendril which helps in climbing; leaflets ovate, slightly pubescent.

Flowers:—in axillary or terminal panicles, regular, hypogynous, bisexual with spirally arranged parts. $\frac{3}{4}$ " to 1".

Sepals:—4, deciduous, petaloid, valvate.

Petals:—12, in two spirals of six, narrow and club-shaped, sepaloid, larger than the sepals, valvate.

Stamens:—numerous, the differentiation between the filament and anther being not very marked.

Ovary:—superior, of numerous free carpels, 1-celled and one-ovuled, covered by means of hairs.

Fruit:—an aetario of achenes, each with the persistent highly developed having style which helps in dissemination.

Flowering time:—December to January.

Histological:—The stem exhibits the herbaceous type of arrangement of the vascular bundles in the young condition. The bundles, about 14-16 in number, are free from one another. Outside each vascular bundle is a strip of strengthening collenchyma tissue which is hypodermal in nature. Alternating with these collenchyma patches are found chlorenchyma tissue. The stem is slightly angular.

Secondary thickening is normal. The xylem vessels are of comparatively big bore which is typical of climbers.

Chromosome Number $2n=16$.

II. *Clematis triloba* D.C. (Introduced).



A climbing perennial shrub.

Leaves:—opposite, trifoliate-compound exstipulate. The petioles after the leaflets have fallen, assume the function of the tendrils and help in climbing. Leaflets ovate, slightly pubescent.

Flowers:—in axillary cymes, regular, hypogynous, with a single whorl of perianth and other parts arranged spirally, bisexual, 1" to 1¼".

Perianth:—of four lobes, petaloid and valvate.

Stamens:—numerous, arranged spirally.

Ovary:—superior, of many free carpels arranged spirally at the top of the thalamus, one-celled and one-ovuled. Style short and hairy.

Fruit:—an aetario of achenes, each crowned by the persistent hairy style which acts as a plume helping in distribution by wind.

Flowering time:—July to August.

Histological:—The stem is angular and at the angles are present patches of collenchyma tissue. The herbaceous type of disposition of vascular bundles is exhibited, the bundles being free and their number 6-10. Each bundle is covered on the outside by a tissue of hardbast. The xylem vessels are of comparatively big bore, which is characteristic of climbers.

Secondary thickening is normal.

III. *Clematis paniculata*. (Introduced).

A climbing shrub.

Leaves:—opposite, tri-to-pentafoliate compound. ex-stipulate. Leaflets often lobed, ovate-elliptic, glabrous.

Flowers:—in axillary and terminal panicles, regular, hypogynous, with a single whorl of perianth and other parts arranged spirally, bisexual, 1—1½" across.

Perianth:—4, dull white, valvate.

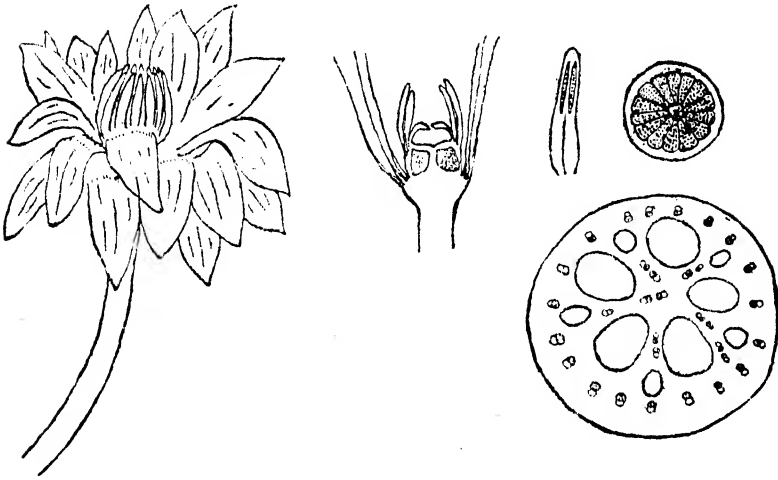
Stamens:—numerous, arranged spirally.

Ovary:—superior, of many free carpels arranged spirally at the top of the thalamus, one-celled and one-ovuled. Style hairy.

Fruit:—an aetario of achenes, each crowned by the persistent hairy style which acts as a plume helping in distribution by wind.

Chromosome number $2n=16$.

NYMPHAEACEAE

I. *Nymphaea Lotus*. Linn, var, *pubescens*

Large aquatic herbs with creeping rootstock.

Leaves:—borne on long stalk, orbicular, pubescent beneath, waxy above.

Flowers:—conspicuous, borne on the surface of water on a long stalk, actinomorphic, hypogynous, with numerous parts, arranged spirally, bisexual, white-rose in color 5"-6".

Sepals:—4, free, petaloid inside, imbricate.

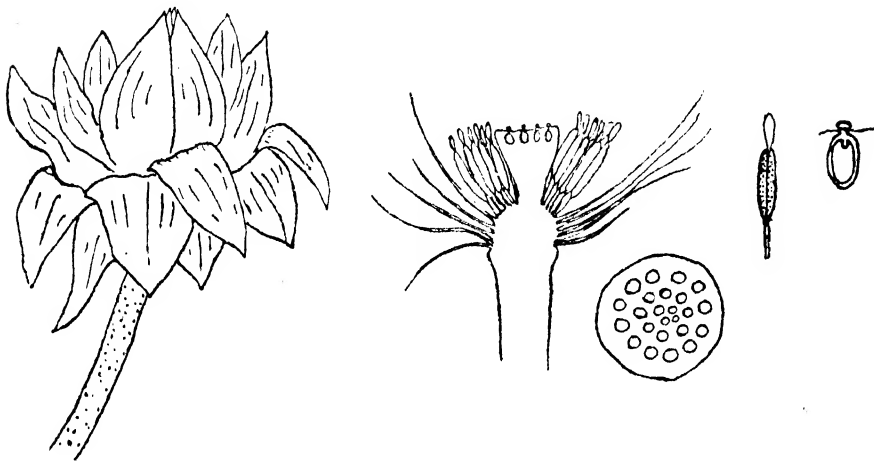
Petals:— ∞ , in many series, the inner successively transformed into stamens, polypetalous, twisted.

Stamens:— ∞ , in many spirals surrounding the thalamus cylinder, with petaloid filaments, anthers linear, narrow.

Ovaries:—many, in one series, sunk in the fleshy thalamus and fused with it forming a many celled syncarpous ovary with axile placentation, crowned by the connate radicating furrowed stigmas. Ovules numerous.

Histological:—The petiole in section shows a number of large air chambers with the vascular bundles distributed all through the section in a haphazard manner.

II. *Nelumbium speciosum*, Willd.



Large aquatic prickly herb with creeping rhizome

Leaves:—large, orbicular, raised on the surface of water by petioles which have prickles on the outside and large air spaces inside. The blade has a thick waxy cuticle on the upper surface.

Flowers:—Rose-red, very conspicuous, actinomorphic, hypogynous, with numerous parts arranged spirally, bisexual 6"-8".

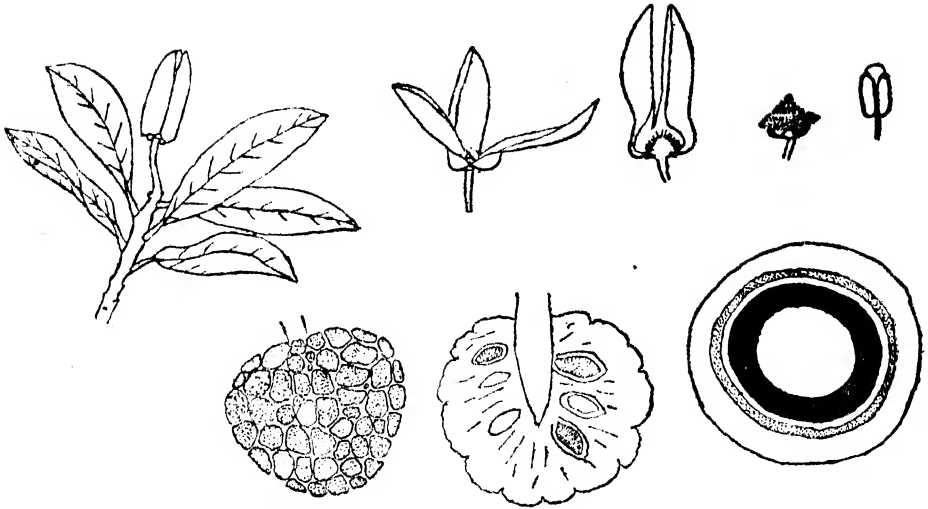
Sepals:—4, caducous, petaloid inside, free, imbricate.

Petals:—numerous, in many spirals, caducous, twisted.

Stamens:—numerous, in many spirals, with a short slender stalk, long anther-lobes and a club-shaped connective.

Gynoecium:—of numerous carpels, free from one another and one-celled but all sunk in the flat top of the obconically prolonged thalamus. Styles very short, stigmas terminal, dilated. Ovules 1-2 pendulous carpels ovoid, loosely placed in the cavities of the enlarged spongy torus.

ANONACEAE

I. *Anona squamosa* Linn, DC.

A small tree.

Leaves:—simple, bifarious, oblong, glabrous.

Flowers:—solitary, terminal, trimerous, with spirally arranged stamens and carpels, hypogynous, actinomorphic, bisexual, 1½" to 2".

Sepals:—3, small and inconspicuous valvate.

Petals:—3, large and fleshy, valvate, with concave base, ¾" to 1".

Stamens:—numerous, arranged spirally, anther cells narrow, top of the connective enlarged and ovoid.

Ovary:—superior, of numerous free carpels, arranged spirally and closely aggregated in the form of a cone at the top of the convex thalamus, one-celled and one-ovuled.

Fruit:—an aggregate of berries, the pulp being formed by the cohesion of the walls of many carpels. Edible.

Seeds:—with ruminant endosperm.

Flowering time:—May to August.

Histological:—The stem exhibits the woody type of disposition of vascular bundles. The bundles are numerous and they are closely placed with narrow medullary rays that they appear in the form of a ring. Outside the individual bundle is a small patch of hardbast, which thus appears in the form of an incomplete ring.

Secondary thickening is normal.

II. *Anona reticulata* Linn., D.C.

Small Trees.

Leaves:—Simple, bifarious, oblong, glabrous.

Flowers:—solitary, axillary or terminal, sometimes grouped together in two or three. Regular, hypogynous, bisexual, with numerous stamens and carpels arranged spirally on the conical thalamus; 2—3" in diameter.

Sepals:—three, smaller than the petals, valvate.

Petals:—three, fleshy, valvate.

Stamens:—numerous, arranged spirally.

Ovary:—apocarpous, superior, the numerous free carpels being arranged spirally on the top of the conical thalamus. Style short.

Fruit:—an aggregate of berries, the walls of the individual berries becoming fleshy and coalescing together to form the edible portion.

Seeds:—with ruminant endosperm.

Flowering time:—September to October.

III. *Polyalthia longifolia* B and H.

A lofty tree, with slender branches.

Leaves:—simple, bifarious, lanceolate with wavy margin, glabrous.

Flowers:—sub-umbelled, pedicels 1–2" long, hypogynous, actinomorphic, bisexual, with numerous stamens and carpels arranged spirally on the top of the convex thalamus 1½" to 2".

Sepals:—3, free, valvate, ½" to ⅝".

Petals:—6, in two series of 3 each, elongated, valvate, ¾" to 1".

Stamens:—numerous, arranged in several spirals, with a short filament and the connective flat and ovoid at the top.

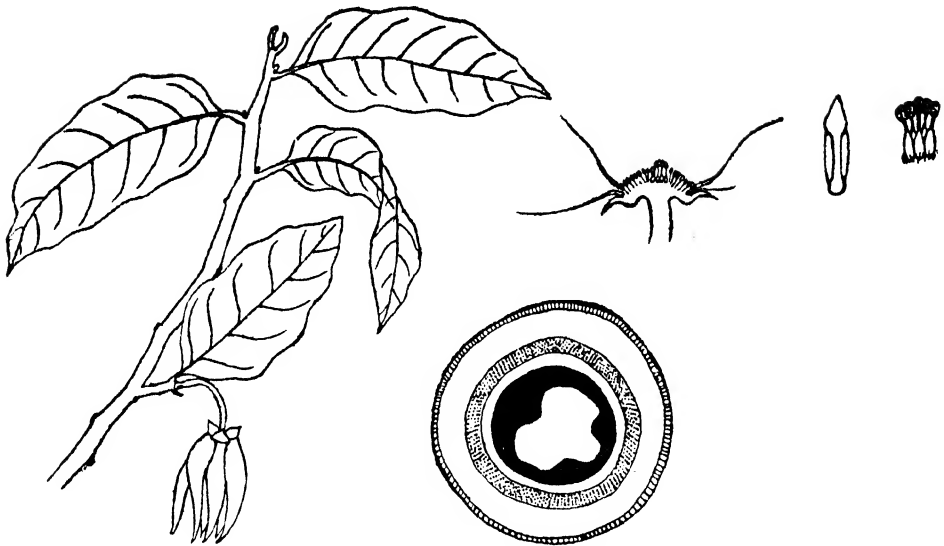
Ovary:—superior, of numerous carpels, arranged in several spirals on the top of the convex thalamus forming a cone; each carpel with a small style and 1–2 ovules.

Fruit:—an aggregate of berries.

Flowering time:—April to June.

Histological:—The arrangement of vascular bundles follows the woody type, there being numerous vascular bundles which are closely arranged in a ring with very narrow medullary rays. This ring is surrounded on the outside by another of hardbast.

Secondary thickening is normal.

IV. *Cananga odorata*. H.

A moderately sized tree.

Leaves:—simple, bifarious, oblong, lanceolate with wavy margin, glabrous.

Flowers:—large, yellow, solitary or clustered together in twos or threes on short axillary peduncles, hypogynous, actinomorphic, bisexual, with numerous stamens and carpels arranged on the top of the convex thalamus, $2\frac{1}{2}$ " to 3" in diameter, sweet scented. Pedicels 1", recurved, bracteate and bracteolate.

Sepals:—3, triangular, $\frac{1}{4}$ " to $\frac{1}{2}$ ", valvate.

Petals:—6, in two whorls of 3 each, inner smaller, long, flat, $1\frac{1}{4}$ " to $1\frac{1}{2}$ " long, valvate.

Stamens:—numerous, arranged in several spirals with short filaments and the connective conically prolonged at the tip.

Ovary:—Composed of 9—12 free carpels, with short styles and capitate stigmas which fuse together to form one mass, with numerous seeds in each carpel.

Fruit:—an aggregate of berries.

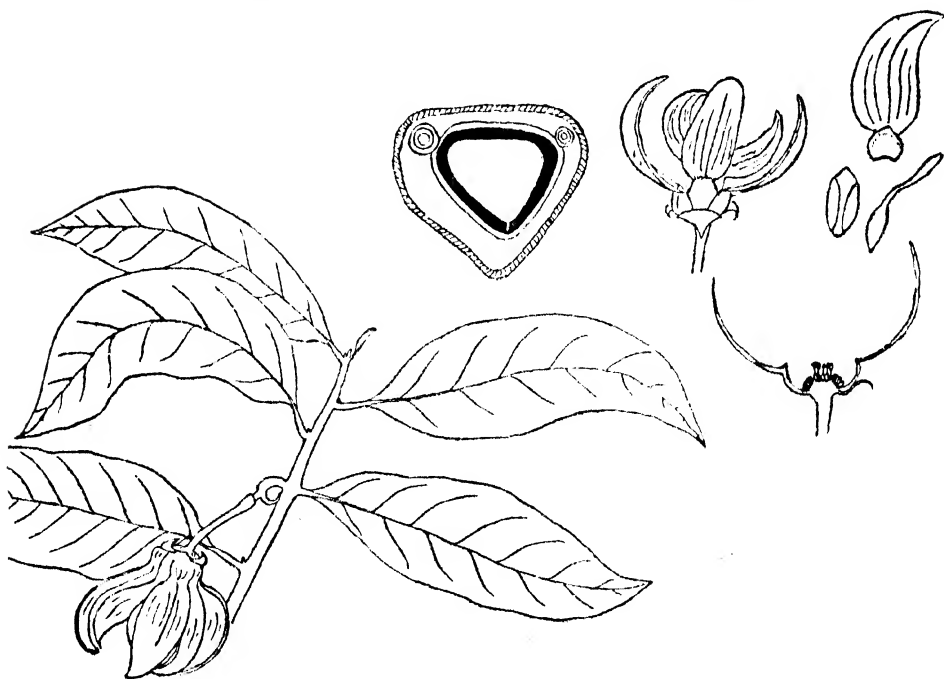
Flowering time:—August to October.

Histological:—The woody type of arrangement of V. Bs. is exhibited by the young stem, there being numerous V. Bs., closely arranged together with very narrow medullary rays. The xylem is broader at certain places and narrow at others. The phloem is surrounded by a ring of stone cells which form the hardbast. An hypodermal tissue of collenchyma is also found.

In the pith at certain places are found transverse patches of sclerenchyma cells. There are also mucilage canals in the cortex and pith.

Secondary thickening is normal.

V. Artabotrys odoratissimus, R. Br., (Introduced).



A highly branching shrubby straggler.

Leaves:—Simple, distichous, oblong lanceolate, glabrous, 6–8" \times 1½–2" with acuminate tip and wavy margin.

Flowers:—usually solitary on woody, usually hooked, recurved branches, hypogynous, actinomorphic, bisexual, greenish yellow in colour, highly scented, 3–4" across.

Sepals:—three, triangular, 0.2–0.3" long, valvate.

Petals:—Six, in two whorls of three each, fleshy, 1½–2" long, greenish yellow, concave at base, the inner whorl shorter than the outer.

Stamens:—numerous, arranged spirally on the thalamus, with short filaments.

Ovary:—superior, polycarpellary apocarpous, the numerous carpels being arranged spirally on the top of the conical thalamus.

Fruit:—an aggregate of berries.

Flowering time:—September to November.

Histological:—The stem exhibits the woody type of arrangement of vascular bundles. Outside the ring of phloem is a ring of hardbast tissue. Just beneath the epidermis is a ring of collenchyma tissue also. Secondary thickening is normal. Leaf trace bundles are found in the cortex traversing whole internodes.

VI. *Uvaria, subrependa.* Wall.



A shrub with slender branches, glabrous in older parts and slightly pubescent in young parts.

Leaves:—membranous, oblong-obovate, distichous, simple, pubescent beneath when young, 4—6" by 1 to 1½"; peduncles slender ¾ to 1" long.

Flowers:—borne extra-axillary, at the middle of an internode. Peduncles bearing 2, rarely more, flowers, in the axils of small, concave bracts. Regular, hypogynous and bisexual, slightly yellow in colour.

Sepals:—three, small, valvate, purplish coloured triangular 0.1 to 0.2" across.

Petals:—three, triangular, fleshy, ¾—1", valvate; yellowish.

Stamens:—numerous, arranged spirally.

Ovary:—Superior, of numerous, free, carpels which are arranged spirally on the top of the conical thalamus.

Fruit:—generally not developed.

Flowering time:—September to November.

Histological:—The stem exhibits the woody type of arrangement of vascular bundles. There is a very narrow ring of hardbast outside the phloem. Secondary thickening is normal. Leaf trace bundles are seen in the cortex which are found to extend throughout the internode.

**Studies in Sanskrit Texts on Temple Architecture
with Special Reference to the Tantrasamuccaya**

By

N. V. MALLAYYA

STANZA 61.

Intermediate Roofing.

This stanza lays down the method for the construction of the roofing of the second tala when a third tala is to be raised above the second tala. The furnishing of an intermediate roofing is an indispensable and structural necessity in places like Kerala, where the seasonal rainfall is heavy during the large part of the year. To build the third Tala, an internal wall (the same which is raised for the construction of the second tala) should be raised. Now a roofing has to be given to the second tala, and, in order to construct the same, rafters have to be fixed. The 'Bāhyottara' and the 'Kūṭa' which constitute the support for fixture of both the lower and upper end of rafters are elements which will be absent when an intermediate roofing comes to be constructed. The Vivaraṇakāra thus observes:⁵⁶⁹

“ बाह्योत्तरं नाडीगृहोत्तरमूर्ध्वकूटं च एतत्प्रथमोत्तरतलयोरेव भवति ॥”

The 'Bāhyottara' or external 'uttara' is essential for securing the lower end of the rafters, and the 'Kūṭa' is necessary for securing their upper extremity. In such a circumstance as this, when a third tala is under construction, some device should be employed for the discharge of the function of the two elements 'Bāhyottara' and 'Kūṭa', which are absent from the second tala. The present stanza deals with such a device. Above the wall of the second tala, whose breadth at the top is less than that at the base by one-eighth, place an Uttara. Secure the upper extremity of the rafters into this Uttara. Then, project outside, the ends of the cross-beams (*Tulās*) which enter into the making of the ceiling of the first tala (i.e. beams of the lower tala which are situated where the first tala ends and the second tala begins). On these beam-ends plant posts (i.e. struts). Fix the lower extremity of the rafters on these struts raised to give the rafters support from beneath. These struts are called 'Tulāsthapādas' and are explained by the author of the Vivaraṇa in the words :—

“तुलास्थपादेष्विति—पूर्वतलतुलासूपरितलपादान्वितं वितनुयात् । तेषु पादेषु
लुपां निवेशयेत् ॥”⁵⁷⁰

The length of the rafters suspended below from the Uttara will be half the height of the pillar of the tala for which the intermediate roof is being added. The *Tulāsthapādas*, according to a Kerala commentary,⁵⁷¹ are curved or bent, and in this design they lose the upright feature of a regular pillar. The curve which is given to project or extend outwards lends expansion of space between the posts and the Gala, and the large part of the Gala is thus thrown open to the gaze of the spectator. The curved posts which support the lower end of the rafters of the intermediate roof thus avoid what would otherwise result in a clouding of the ornamentations of the Gala through upright posts. Moreover, curve is a graceful design in itself and as such serves in its own way in the scheme of architectural beautification. The type of roofing described here will be most successfully and gracefully worked out when the material used is timber and as a matter of fact instances are not rare in Malabar where roofing of the above kind is found easily constructed in wood.

STANZA 62.

Jāti Prāsādas.

In the previous verse, the author has described the process of construction of the intermediate roof when a third tala is to be made. The details pertaining to the further talas are not given in the succeeding portion probably because such a treatment was not called forth by popular demand. *Mahāprāsādas*, as we have noted already, are rarely if ever met with in Kerala. The author therefore, in the following section, switches off to a mere enumeration of the number of floors and the odd and even measures which characterise the *Mahāprāsādas*. *Mahāprāsādas* are divided into four classes—*Jāti*, *Chandas*, *Vikalpa* and *Ābhāsa*—from the point of view of their measurement and the number of floors that they possess. In the present stanza, the author deals with the *Jāti* class. *Prāsādas* coming under the *Jāti* class will possess talas beginning with three and ending with twelve. (If we are to render the term ‘Tala’ by the expression ‘floor’, then, it must be borne in mind

570. *Ibid.*

571. Ms. R. No. 4. 128 Govt. Oriental Mss. Library, Madras.

that the number of floors is inclusive of the ground-floor). The *Jāti* class admits measure from 11 to 70 cubits. There are altogether 60 varieties of measure, 30 being odd and 30 even. The odd measures begin with 11 cubits and end with 69, and the even ones begin with 12 and end with 70. The odd measures 11, 13, and 15 are further characterised as Adhama (lowest), Madhyama (middling) and Uttama (highest) types respectively and the even measures that are similarly characterised as belonging to the Adhama, Madhyama and Uttama varieties respectively are 12, 14 and 16. This statement relates to the measures of the 3rd floor. The same method should be extended to the classification of measures of other floors into Uttama, Madhyama and Adhama types. The twelve floors (talas) with their odd and even measures of Uttama, Madhyama and Adhama types, will be arranged in the following table given below:—

No. of Talas.	Odd Measures.			Even Measures.		
	Adhama	Madhyama	Uttama	Adhama	Madhyama	Uttama
III.	11	13	15	12	14	16
IV.	17	19	21	18	20	22
V.	23	25	27	24	26	28
VI.	29	31	33	30	32	34
VII.	35	37	39	36	38	40
VIII.	41	43	45	42	44	46
IX.	47	49	51	48	50	52
X.	53	55	57	54	56	58
XI.	59	61	63	60	62	64
XII.	65	67	69	66	68	70

Each of the 10 classes of Talas (III to XII), it will be noted here, admits of 3 odd measures and 3 even measures, and the total varieties under each class of Talas amount to six. So the ten classes of Talas (from III to XII) admit of a total of 60 varieties. In the last quarter of the stanza the author prescribes the height that is generally given to

these 60 varieties coming under the *Jāti* class. It is as stated below: Divide the *vyāsa* (breadth) of the *Prāsāda* into seven parts, and add three parts thereof to the breadth prescribed. This will be the height. In other words the height is $1\frac{3}{4}$ of the breadth. The commentator illustrates this rule with reference to the '*Dvādaśatalaprāsāda*'. Its (*uttama*) breadth prescribed is 70 cubits. Divide it into 7 parts and add 3 parts thereof to the breadth. It will give 100 cubits. The height of the *Dvādaśatalaprāsāda* of the *uttama* variety will consequently possess a height of 100 cubits. The commentator remarks⁵⁷²:—

“सप्ततिकरे प्रासादे शतकर उत्सेध इत्यादिक्रमेणावगन्तव्या इत्यर्थः ॥”

It will be recalled in this connection that the author has laid down four alternative proportions of height to all classes of *Prāsāda* in stanza 7, and they are: Height— $1\frac{3}{4}$ B, $1\frac{1}{2}$ B, $1\frac{3}{4}$ B, and 2 B. Of these four alternatives, it will be in consonance with good taste to select 2 B and prescribe it for the *Alpaprāsāda*. With regard to *Mahāprāsāda*, however, it might be remarked that, by virtue of its large measure, it does not necessarily require the last of the alternative proportions to acquire an imposing character. The first alternative $1\frac{3}{4}$ itself will suffice for its height, and hence the author says that the generally accepted height for the 60 varieties of *Jāti Prāsāda* is $1\frac{3}{4}$ B.

Other authorities, such as *Pitāmaha*, *Kāśyapa*, *Gurudeva* and *Maya* also deal with the different dimensions of the *Jāti* class of *Pāsādas*. They give the varied measures of breadth, height and the number of floors that characterise the *Jāti* and other classes of structure. Relevant extracts dealing with the classification of *Prāsādas* from these various authorities will serve to amplify the information contained in our text. A general tone of agreement is noticeable in the treatment of the topic by these several writers.

Pitāmaha, who is often found quoted in the *Gurudevapaddhati*, is quoted in the present context by the commentator *Śaṅkara*.⁵⁷³ With reference to the *Jāti* class *Pitāmaha* states as follows:—

“हस्तसप्ततिविस्तारं शतहस्तोच्छ्रितं भवेत् ।
उत्तमं द्वादशतलं विमानं जातिरुच्यते ॥

572. *Tantrasamuccaya* with *Vimarśinī* (T.S.S. Ed.), Part I, page 87.

573. *Ibid.*, pp. 87, 88.

भवेन्नवतिषष्टिभ्यां त्र्युत्तराभ्यां यथाक्रमम् ।
 उच्चविस्तारयोः श्रेष्ठमेकादशतलं गृहम् ॥
 उन्नतं चतुरशीत्या सप्तपञ्चाशदायतम् ।
 श्रेष्ठं दशतलं धाम विज्ञेयं जातिसंज्ञितम् ॥
 उच्छ्रितं पञ्चसप्तत्या चैकपञ्चाशदायतम् ।
 नवभौमं विमानं तु विज्ञेयमतिशोभनम् ॥
 षट्षष्ट्युच्चं तथा पञ्चचत्वारिंशत्समायतम् ।
 हस्तानां कीर्तितं धाम जातिरष्टतलं शुभम् ॥
 सप्तपञ्चाशदुत्तुङ्गं नवत्रिंशत्करायतम् ।
 सप्तभौमं विमानं तु जात्यं सर्वफलप्रदम् ॥
 त्रयस्त्रिंशत्करव्यासं चत्वारिंशद्भिरुत्तरैः ।
 नवभिश्चोच्छ्रितं धाम षट् तलं परिकीर्तितम् ॥
 नवत्रिंशत्करोत्तुङ्गं सप्तविंशत्करायतम् ।
 पञ्चभौमं गृहं प्रोक्तं जातिभेदसमुद्भवम् ॥
 त्रिंशता चैकविंशत्या तुङ्गव्यासं चतुस्तलम् ।
 एकविंशत्करोत्तुङ्गं दशपञ्चकविस्तृतम् ॥
 त्रिभौमं भवनं प्रोक्तं मुख्यं जातिसमुद्भवम् ।
 एवं त्रितलमारभ्य यावद्वादशभूमिकम् ॥
 उक्तमानात् प्रतितलं हासयेद् द्विकरं क्रमात् ।
 मध्यमानि विमानानि भवन्तीह दश क्रमात् ॥
 मध्येभ्यो द्विकरद्वासात् कनिष्ठानि पृथक् क्रमात् ।
 संभवन्ति विमानानि तिमिरारितलादिह ॥
 अथवा युग्महस्तैस्तु षोडशादिक्रमेण तु ।
 सप्तत्यन्तर्विमानानि त्रितलादीनि वै दश ॥”

Gurudeva⁵⁷⁴ closely follows Pitāmaha when he states :

“ अथ द्वादशभौमादि यावत् तु त्रितलं भवेत् ।
 प्रोक्तानां च विमानानामुत्तमादिप्रभेदतः ॥
 उत्सेधव्यासमानं तु हस्तैः पृथगिहोच्यते ।
 तत्रादित्यतलं श्रेष्ठं शतहस्तोच्छ्रितं भवेत् ॥
 हस्तसप्ततिविस्तारं मुख्यं जात्यपि च क्रमात् ।
 त्रिषष्टिहस्तविस्तारं त्रिनवत्युन्नतं तु यत् ॥
 उत्तमेन तु मानेन स्यादेकादशभूमिकम् ।
 तथा चतुरशीत्युच्चं सप्तपञ्चाशता ततम् ॥
 दशभौमं स्मृतं धाम श्रेष्ठमानेन शोभनम् ।
 पञ्चसप्ततिदुङ्गं यदेकपञ्चाशता ततम् ॥
 नवभौमं तु तन्मुख्यं यथायुक्तिं नियोजितम् ।
 उच्चं षडधिकं षष्ट्या चत्वारिंशच्च पञ्च च ॥
 करणां विस्तृतं धाम भवेदष्टतलं शुभम् ।
 सप्तपञ्चाशदुत्तुङ्गं त्रिंशता नवकेन च ॥
 करणां विस्तृतं धाम सप्तभौमं प्रकीर्तितम् ।
 त्रयस्त्रिंशत्करव्यासं चत्वारिंशत्करैरपि ॥
 नन्दहस्तैश्च यत्तुङ्गं पञ्चभौमं तु तद्भवेत् ।
 त्रिंशता चैकविंशत्या तुङ्गव्यासं चतुस्तलम् ॥
 प्रकृत्या चातिशक्त्या त्रिभौमं तुङ्गविस्तृतम् ।
 एवं त्रितलमारभ्य यावद् द्वादशभूमिकम् ॥
 उक्तमानात् प्रतितलं हासयेद् द्विकरं क्रमात् ।
 मध्यमानि विमानानि भवन्तीह दश क्रमात् ॥
 तद्वन्मध्यविमानानां हासेन द्विकरं पृथक् ।
 कनिष्ठादिविमानानि सिद्धयन्त्या जगतीतलात् ॥

अथवा युग्महस्तैस्तु विकारकरमादितः ।
 सप्तम्यन्तं विमानानि जात्यादि प्रभवन्ति हि ॥
 तान्यपि त्रितलादीनि भवन्त्यर्कतलान्तकम् ॥”

The views of Pitāmaha and Gurudeva may be tabulated as follows:—

Pitāmaha.			Gurudeva.		
Tala No.	Breadth.	Height	Tala No.	Breadth.	Height
12	70	100	12	70	100
11	63	93	11	63	93
10	57	84	10	57	84
9	51	75	9	51	75
8	45	66	8	45	66
7	39	57	7	39	57
6	33	49	0	0	0
5	27	39	5	33	49
4	21	30	4	21	30
3	15	21	3	15	21

These are the proportions prescribed for the Jāti buildings which have talas from 3 to 12, and which belong to the *uttama* type. In each class of talas the middling will be less by 2 cubits and the lowest still less by 2 cubits.

Structures having talas from 4 to 12, and having 27 odd alternative measures for its breadth, beginning with 17 cubits and ending with 69, and 27 even alternative measures, beginning with 18 and ending with 70, are described as the *Jāti* class in the *Kāśyapaśilpa*. There also under each Tala class there are three kinds of measure, belonging to the best, middling and lowest type. Corresponding to the breadth prescribed, there is also laid down height, the odd starting with 23 cubits, and the

even with 27, the increase being by 3 cubits. The table given below will illustrate the view of Kāśyapa:—

No. of talas	Odd Measures:—Breadth: Height.			Even Measures:—Breadth: Height.		
	Adhama	Madhyama	Utkrṣṭa	Adhama	Madhyama	Utkrṣṭa
4	17:23	19:26	21:29	18:27	20:30	22:33
5	23:32	25:35	27:38	24:36	26:39	28:42
6	29:41	31:44	33:47	30:45	32:48	34:51
7	35:50	37:53	39:56	36:54	38:57	40:60
8	41:59	43:62	45:65	42:63	44:66	46:69
9	47:68	49:71	51:74	48:72	50:75	52:78
10	53:77	55:80	57:83	54:81	56:84	58:87
11	59:86	61:89	63:92	60:90	62:93	64:96
12	65:95	67:98	69:101	66:99	68:102	70:105

This table is prepared in accordance with the directions furnished in the following lines of Kāśyapa⁵⁷⁵ on *Jāti Harṃya*:—

“ जातिहर्म्यमथो शृणु ।
 सप्ताष्टादशहस्तादि द्विद्विहस्तविवर्धनात् ॥ १७ ॥
 सप्ताशीतीति (सप्ततीति ?) हस्तान्तं सप्तविंशतिसंख्यया ।
 चतुर्भूमिं समारभ्य यावदर्कतलं प्रति ॥ १८ ॥
 तावद्विस्तारमाख्यातमुत्सेधं शृणु सुव्रत ।
 त्रिसप्तविंशद्विस्तारित्रीत्रिहस्तविवर्धनात् ॥ १९ ॥
 यावदाशतहस्तान्तमुच्चं प्रागिव संख्यया ।
 अथमं मध्यमोत्कृष्टं व्यासोच्चं च क्रमोदितम् ॥
 एवं जातिविमानं तु सप्तविंशतिर्धोदितम् ॥ २० ॥”

Similar direction is given in the *Mayamata*,⁵⁷⁶ but the name of the class is not mentioned. Compare the lines from Maya quoted below:

575. *Kāśyapaśilpa* (Ānandāśrama Series) Paṭala XXIV, 17-21.

576. *Mayamata* (T.S.S. Ed.), XI, 10(2)—13(1).

“ सप्ताष्टाधिकपङ्क्त्यादि द्विद्विहस्तविवर्धनात् ॥
 आसप्तेश्चतुर्भूम्यादीनि त्रीणि मतानि च ।
 सप्तविंशतिभेदानि द्वादशान्तान्यनुक्रमात् ॥
 त्रिचतुर्विंशतिरत्नेर्यावच्छतकरान्तकम् ।
 त्रिद्विहस्तविवृद्ध्या तु त्रिनवोत्सेधमिष्यते ॥
 एवमुत्कृष्टमानेषु श्रेष्ठमध्याधमं भवेत् ॥”

STANZAS 63 & 64.

Chandas, Vikalpa, Ābhāsa.

The ‘Chandas’, ‘Vikalpa’ and ‘Ābhāsa’ Prāsādas are referred to in these stanzas. The *Chandas* class will have from 4 to 12 talas. Each of the nine classes of talas will possess 6 different types of measures, three odd and three even, from the point of view of the Uttama, Madhyama and Adhama variation. The odd measures begin with 13 cubits and end with 65, and the even ones begin with 14 cubits and end with 66. The alternatives of Chandas will be 27 under the odd measure type and 27 under the even measure type, and the total number of alternatives constituted will be 54.

Similarly, on the basis of the odd and even measures beginning with 9 and 10 cubits and ending with 55 and 56 cubits, and talas beginning with 4 and ending with 12, *Vikalpa* Prāsādas will be of 48 different types. Beginning with the odd and even measures of 11 and 12 cubits and ending with 47 and 48 cubits, *Ābhāsa* Prāsādas will have from 4 to 12 talas. It will noted in this connection that, except in the 12 Tala type, the rest in Ābhāsa Prāsāda will have only the Uttama and Adhama variation. Chandas and Vikalpa, on the other hand, admit of all the three variations of Uttama, Madhyama and Adhama, and hence each Tala type, beginning with 4 and ending with 12, in Chandas and Vikalpa will allow 6 alternative measures. Thus *Chandas* will have a total of 54 varieties; *Vikalpa*, 48; and *Ābhāsa*, 38. Stanza 64 gives direction to this effect. Here (i.e. in the Ābhāsa), says the author, the Four Tala type onwards up to the Eleven Tala type (both inclusive), will have four varieties each; the last, namely, the 12th Tala type, will have six

varieties of Adhama, Madhyama and Uttama. The author, then, in the last quarter of this stanza sums up the section with the enumeration of the total types under each category. Thus he says, in the *Jāti* class, there are 60 types from the point of view of cubit-measures, in the *Chandas* 54, in the *Vikalpa* 48, and in the *Ābhāsa* 38. The tables given below will illustrate the 3 classes—*Chandas*, *Vikalpa* and *Ābhāsa*—as described by the author:—

CHANDAS (54 VARIETIES 9×6)

Tala class	Odd measure types			Even measure types.		
	Adhama	Madhyama	Uttama	Adhama	Madhyama	Uttama
4 talas	13	15	17	14	16	18
5 talas	19	21	23	20	22	24
6 talas	25	27	29	26	28	30
7 talas	31	33	35	32	34	36
8 talas	37	39	41	38	40	42
9 talas	43	45	47	44	46	48
10 talas	49	51	53	50	52	54
11 talas	55	57	59	56	58	60
12 talas	61	63	65	62	64	66

VIKALPA (48 VARIETIES 8×6).

Tala class	Odd measure types			Even measure types.		
	Adhama	Madhyama	Uttama	Adhama	Madhyama	Uttama
5 talas	9	11	13	10	12	14
6 talas	15	17	19	16	18	20
7 talas	21	23	25	22	24	26
8 talas	27	29	31	28	30	32
9 talas	33	35	37	34	36	38
10 talas	39	41	43	40	42	44
11 talas	45	47	49	46	48	50
12 talas	51	53	55	52	54	56

ĀBHĀSA (38 VARIETIES $9 \times 4 = 36 + 2 = 38$)

Tala class	Odd measure types			Even measure types		
	Adhama	Madhyama	Uttama	Adhama	Madhyama	Uttama
4 talas	11	..	13	12	..	14
5 talas	15	..	17	16	..	18
6 talas	19	.	21	20	..	22
7 talas	23	..	25	24	..	26
8 talas	27	..	29	28	..	30
9 talas	31	..	33	32	..	34
10 talas	35	..	37	36	..	38
11 talas	39	..	41	40	..	42
12 talas	43	45	47	44	46	48

Our author's treatment of 'Chandas' and 'Vikalpa' is in entire agreement with the description of the same found in the *Kāśyapaśilpa* and the *Mayamata*. In the latter, however, additional information pertaining to the height is furnished.

Kāśyapa states :⁵⁷⁷—

“ छन्दमानमथो शृणु ।
 त्रिचतुर्दशहस्तादि द्विद्विहस्तविवर्धनात् ॥
 पञ्चषट्षष्टिहस्तान्तं व्यासं वै सप्तविंशतिः ।
 वेदभूर्मि समारभ्य भानुभूमावसानकम् ॥
 अधमं मध्यमोत्कृष्टं मानानि स्युस्तलं प्रति ।
 सप्ताष्टादशहस्तादि त्रिहस्तविवर्धनात् ॥
 पञ्चषण्णवतिर्यावदुच्चं प्रागिव सङ्ख्यया ।
 (अधमं मध्यमोत्कृष्टं तुङ्गभेदतलं प्रति ॥)
 छन्दमेवं समाख्यातम् ॥”

577. *Kāśyapaśilpa*, XXIV, 13-16 (Ānandāśrama Series); also vide TS. (T.S.S. Ed. Part I, p. 89).

Maya observes: ⁵⁷⁸—

“ त्रिचतुष्पङ्क्तिहस्तादि द्विद्विहस्तविवर्धनात् ॥
 पञ्चषट्षष्टिहस्तान्तं सङ्ख्यया पूर्वसंस्कृतिः ।
 चतुस्तलविमानादि द्वादशान्तं विधीयते ॥
 सप्ताष्टपङ्क्तेरारभ्य त्रिहस्तविवर्धनात् ।
 पञ्चषण्णवतिर्यावदुच्चं प्रागिव सङ्ख्यया ॥
 श्रेष्ठमध्यकनिष्ठं स्यादेवं मध्यक्रमेषु च ॥”

Chandas as described in these lines may be illustrated in the following table:—

CHANDAS 54 VARIETIES (27 ODD AND 27 EVEN)
 BREADTH : HEIGHT

No. of talas	Odd Measures			Even Measures		
	Adhama B:H.	Madhyama B:H.	Uttama B:H.	Adhama B:H.	Madhyama B:H.	Uttama B:H.
4	13:17	15:20	17:23	14:18	16:21	18:24
5	19:26	21:29	23:32	20:27	22:30	24:33
6	25:35	27:38	29:41	26:36	28:39	30:42
7	31:44	33:47	35:50	32:45	34:48	36:51
8	37:53	39:56	41:59	38:54	40:57	42:60
9	43:62	45:65	47:68	44:63	46:66	48:69
10	49:71	51:74	53:77	50:72	52:75	54:78
11	55:80	57:83	59:86	56:81	58:84	60:87
12	61:89	63:92	65:95	62:90	64:93	66:96

The description of ‘Vikalpa’ found in the *Kāśyapaśilpa* and the *Mayamata* likewise supports the statement of our author. Thus *Kāśyapa* says: ⁵⁷⁹—

578. *Mayamata* (T.S.S. Ed.), XI, 13⁽²⁾—15.

579. This text of *Kāśyapa* is quoted from the commentary of Śaṅkara, where Śaṅkara quotes it in support of the author's text. The last two lines are found missing in the Edition of the *Kāśyapaśilpa* of the Anandāśrama Series. Vide *Kāśyapaśilpa*, Paṭ. XXIV, Sts. 8-12.

“ विकल्पमधुना शृणु ।
 नवपङ्क्तिकरात् पञ्चषट्पञ्चाशत्करान्तकम् ॥
 द्विद्विहस्तविवृद्धया तु चतुर्विंशतिसङ्ख्यया ।
 पञ्चभूमिं समारभ्य यावदर्कतलान्तकम् ॥
 अधमं मध्यमोत्कृष्टं त्रयो भेदास्तलं प्रति ।
 सप्ताष्टादिकपङ्क्त्यादि त्रिहस्तविवर्धनात् ॥
 षट्सप्ताधिकाशीत्यन्तमुच्चं प्रागिव सङ्ख्यया ।”

Compare the lines from the *Mayamata* given below:⁵⁸⁰—

“ नवपङ्क्तिकरात् पञ्चषट्पञ्चाशत्करान्तकम् ॥ १६ ॥
 द्विद्विहस्तविवृद्धया तु चतुर्विंशतिसङ्ख्यया ।
 पञ्चादिद्वादशान्तानां हर्म्याणां विपुलं क्रमात् ॥ १७ ॥
 सप्ताष्टनवभूमानां धाम्नामुक्तप्रमाणतः ।
 युञ्ज्याद् द्वादशभूम्यन्तं विमानं मानविद्वरः ॥”

The following table will serve to illustrate the text:—

No. of Talas	Odd Measures B:H:			Even Measures B:H.		
	Adhama	Madhyama	Uttama	Adhama	Madhyama	Uttama
5 tala class	9:17	11:20	13:23	10:18	12:21	14:24
6 tala class	15:26	17:29	19:32	16:27	18:30	20:33
7 tala class	21:35	23:38	25:41	22:36	24:39	26:42
8 tala class	27:44	29:47	31:50	28:45	30:48	32:51
9 tala class	33:53	35:56	37:59	34:54	36:57	38:60
10 tala class	39:62	41:65	43:68	40:63	42:66	44:69
11 tala class	45:71	47:74	49:77	46:72	48:75	50:78
12 tala class	51:80	53:83	55:86	52:81	54:84	56:87

Total= 48 varieties.

580. *Mayamata* (T.S.S. Ed.), Ch. XI, 16(2)—18; (also vide the *Tantrasamuccaya*, Part I, p. 90 (T.S.S. Ed.)

With regard to the *Ābhāsa Prāsāda* the author's direction is in agreement with the direction given by Pitāmaha and Gurudeva. Thus Pitāmaha observes: ⁵⁸¹—

“एकादशकरासप्तचत्वारिंशत्कराते ।
द्विहस्तवर्धनात् प्राग्वदूनविंशतिसङ्ख्यया ।
चतुर्भौमादर्कभौममाभासाख्यानि तानि वै ॥”

19 odd measures and 19 even measures make up a total of 38 different measures. The same lines are found in the *Gurudevapaddhati*.⁵⁸² There the third line reads thus:

चतुर्भौमाद्यर्कभौमादाभासाख्यानि तानि वै

These four—*Jāti*, *Chandas*, *Vikalpa* and *Ābhāsa*—constitute the classes of structures which are commonly known under the broad title “*Mahāprāsādas*,” and the chief basis of classification that is employed here is the dimension both vertical and horizontal, such as the breadth and height, and the number of talas that enter into the making of these different classes of structures. A comparison of our text with the several other allied texts reveals the authoritative character of the treatment, which is in consonance with the statement of the several authorities we have referred to and illustrated above.

STANZAS 65—70.

In these stanzas, the author states the formulas that are to be adopted in the determination of the shape of the ground-plan of the structure. Here, in all shapes—square, rectangular, hexagonal, octagonal, circular, elliptical; apsidal and the like—, the basic figure that uniformly presents itself in the formulas is the perimeter. The extent of the ground-plan is to be taken as fixed, and, after choosing a perimeter, the formulas are required to be applied to this chosen perimeter.

581. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, p. 90.

582. *Gurudevapaddhati*, (T. S. S. Ed.), Uttarārdha, Paṭala XXX, 18⁽¹⁾.

The formula relating to the circular Prāsāda, etc., may be thus stated as follows :—

(1) *Circular Prāsāda*

$$\text{Radius of the circle} = \frac{P}{710} \times 113.$$

(2) *Rectangular Prāsāda.*

$$\text{Breadth} = \frac{\frac{1}{2} \text{ perimeter}}{10} \times 4$$

$$\text{Length} = \frac{\frac{1}{2} P}{10} \times 6.$$

(3) *Hastiprṣṭha type.*

$$\text{Length} = \frac{\text{perimeter}}{64} \times 63 \times \frac{4}{18}$$

$$\text{Radius of the semi-circle} = \frac{\text{perimeter} \times 63}{64} \times \frac{2}{18}$$

and so on . (P = Perimeter). Directions are further given with regard to elliptical, hexagonal and octagonal structures.

Having fixed any perimeter desired for the sanctum, the site of that desired size can be converted into any shape, having recourse to formulas. The adoption of the perimeter as the uniform basic standard in the formulas of any shape, tends to strengthen the view-point that square constitutes the fundamental shape, from which all other shapes can be derived or modified and with which all the other shapes may be associated directly or indirectly. This interesting feature, which the different formulas of shape reveal, deserves to be borne in mind in connection with the topic of shapes of structures.

STANZA 71.

*Three Main Styles of Architecture—Nāgara, Drāviḍa, and Vesara.**

After having described the shapes in general the author now deals with the three main styles of Indian temple Architecture known as 'Nāgara,' 'Drāviḍa' and 'Vesara.' Shape, pure or mixed, is the basis which the Indian authorities adopt in the differentiation of structures as Nāgara, Drāviḍa and Vesara. Structures are classified from various points of view such as their ornamentation, the number of their talas, their size and the like; but the classification on the basis of shape is the most ancient and important mode of differentiation. The authors of the *Suprabhedāgama*,⁵⁸³ *Kāmikāgama*,⁵⁸⁴ *Mayamata*,⁵⁸⁵ *Kāśyapaśilpa*,⁵⁸⁶ *Gurudevapaddhati*,⁵⁸⁷ *Mānasāra*,⁵⁸⁸ *Silparatna*,⁵⁸⁹ etc., consider shape as the fundamental basis of classification of the styles of architecture. The statement of our author with regard to shape is perfectly clear. As described by the author, that edifice is known as 'Nāgara' which is square from the basement to the Śikhara (both parts inclusive); that which is hexagonal or octagonal from above the neck to the end of the Śikhara is 'Drāviḍa' (here, the shape of the portion below the neck as implied is square); that which is circular from the basement or from the neck is 'Vesara'. It deserves to be noticed here that 'Nāgara' is of the pure form, whereas the others admit of a mixture of shapes. Where the shape is of a composite character, the shape of the body portion, as implied in the description by several authors, is square, and it therefore may conveniently be held that the shape of the Śikhara is always the guiding factor in all instances of pure or mixed shape. Thus, if the Śikhara is square, it is 'Nāgara'; if faceted, 'Drāviḍa'; if circular, 'Vesara'. Here by shape of Śikhara we are inclined to understand the shape of the horizontal section of it, because such an interpretation

*For a discussion at length on the three main styles vide my paper on 'Nāgara', 'Drāviḍa' and 'Vesara' contributed to the *Journal of the Indian Society of Oriental Art*, Vol. IX (1941 issue, now in the press).

583. *Suprabhedāgama*, Ch. XXX.

584. *Kāmikāgama*, Ch. 49.

585. *Mayamata* (T.S.S. Ed.), Ch. XIX.

586. *Kāśyapaśilpa* (Anandāsrama Series).

587. *Gurudevapaddhati*, Uttarārḍha, XXX.

588. *Mānasāra* (P. K. Āchārya's ed.), XVIII.

589. *Silparatna*, (T. S. S. Ed.), Vol. I; XVI.

tends to minimise the confusion that has crept into the discussions on the subject of Styles of Indian temple architecture. Further, it enables us to apply the definition of *Nāgara* given in architectural literature to the extant structures of North India, which are variously called by modern writers, 'Indo-Aryan' shrines, 'Āryāvarta' shrines, 'Nāgara' shrines, etc. Because of the bulging curvilinear form which the *Śikhara*s present it need not be supposed that it is outside the pale of the definition of *Nāgara* as set forth in the *Śilpaśāstras*. As Prof. Pisharoti remarks:⁵⁹⁰ "its bulging or curvilinear nature is not the essential character of *Nāgara Śikhara*s, variously called the Indo-Aryan or *Āryāvarta* shrines; it is a subsidiary feature built into the square *Śikhara* as a matter of ornamentation in the course of the development of Indian architecture, and this explains the absence of the same in earlier structures of the *Nāgara* type in North India as also the later day shrines in other parts of India." The following observation might be noted in this connection :—

"All authorities are agreed that *Nāgara* shrines are characterised by a square *Śikhara* : in other words, it will be a pyramid on a square base, ending in a point. That this is the approved shape for *Nāgara* shrines is not merely a matter of theory, but is also something actually borne out in practice, as is seen in the extant architectural remains of the earliest as well as the latest structures. When it is said that the *Nāgara Śikhara* is a square, the idea is that any horizontal section of the same must be a square. This primary aspect being satisfied, it may have manifold shapes, and even the bulging curvilinear *Śikhara* can have a square base. Hence it has to be borne in mind that because a *Śikhara* has a bulging curvilinear outline, this particular feature need not be against the view of the traditional theorists. Now with this basic conception that every *Nāgara* shrine must have a square section, the variations in actual form may be manifold, based on a straight line or a convex line or a concave line; and every genuine *Nāgara* shrine, brought under the category of Indo-Aryan or *Āryāvarta*, or *Śikhara* shrine—if it may be rightly termed *Nāgara* shrine—must have this square section, whatever else it may or may not have."⁵⁹¹

It is interesting in this connection to trace the origin and probable significance of the term *Nāgara* in view of the controversy that has

590. *Annamalai University Journal*, Vol. V, No. 2, 'Śikhara,' p. 214.

591. *Ibid.*, pp. 211, 212.

raged round the Styles of Indian Temple Architecture. Nāgara is that which is connected with 'Nagara' (नगरसम्बन्धि). The term 'Nagara' comes from the word 'Naga.' In the vārtika "नगपांसुपाण्डुस्यश्च" under the sūtra⁵⁹² "ऊषसुविमुक्तमधोरः". Kātyāyana adds the affix 'ra' after the word 'naga'. The affix 'ra', it must be remembered, is used in the force of 'matup' which signifies 'nityayōga' (the inherent or permanent quality of a thing, or 'samsarga' (association). The term 'Nagara' is derived as "नगाः सन्ति अस्मिन्निति" and it is employed in ordinary literature in the sense of a 'town.' What is the meaning of 'naga' in 'Nagara'? The word 'Naga' in 'Nagara' (town) probably implies 'house', and it is not improper to call a town 'Nagara' in that it is marked by the presence of houses* which are firm like 'nagas'. This interpretation is not inconsistent with the etymological derivation of 'naga' as "न गच्छतीति नगः." A house does not move, and immobility is one of the chief attributes of architecture. If we are permitted to speculate further, we might associate the sense of trees in the derivation of 'Nāgara' and presume that ultimately 'Nāgara' tends to suggest the style of building evolved out of intense and constant practice in the material 'wood', for 'Naga' also means 'tree.' It is held almost universally that in a country which is so rich in timber like India, the original and extensive material used in the construction of houses was 'wood'. The 'Parnaśālās' of the sages of old were transformations into forms of huts or humble dwellings of the materials which the trees yield. In simple structures of the kind, trunks were used for posts and beams and leaves were employed for plaiting and covering. In the construction of temples too wood was the material largely employed in ancient times. Timber tends to give straight lines, and consequently the structure where wood is the material that is chiefly employed, assumes necessarily square or rectangular shape. This is only a natural process, the inevitable result of evolution, as architectural species adapt themselves to the materials largely used. Straight feature, which is the expression of the inherent quality associated with wooden species of construction, and which is suggestive of the idea of firmness of structure, later on became systematised into square or rectangular style of structure, known as 'Nāgara'. The term 'Naga' (tree) in Nāgara may be taken as indicative this inherent rectangular feature of wooden construction. It is no

592. Pāṇini's sūtra, 5, 2, 107.

* नगा इव प्रासादादयः सन्ति यत्र (Sabdakalpadrūma, Vol. II, p. 817).

doubt difficult to assert this way or that about the origins of style; but this much may be said, that style is formed and moves within certain psychological currents. "Style in architecture", as John Summerson remarks,⁵⁹³ "is ultimately a matter of the unconscious associations developing round structural forms." Thus square or rectangular form of construction associated with the form of wooden buildings ultimately resulted in the square style of construction known as 'Nāgara.' This square aspect, which is originally the inherent feature of wooden construction, at a later stage came to be translated in stone and brick, and it is at this stage of development that the bulging curvilinear line was introduced. The bulging nature has thus to be taken as an instance of further elaboration of the square style, sprung out of the tendency to elaborate and modulate and ornament the original structural forms. This curvilinear and bulging aspect is divorced from the functional background of a roof in the case of the North Indian shrines characterised by their bulging curvilinear type of Śikhara. It constitutes a sub-variety of the Nāgara style of Śikhara, whose fundamental shape is square. Being a later day addition, it should not be confused with the origin of the square and pyramidal Śikhara. Elaborations and additions were, no doubt, introduced in the form of the bulging curvilinear lines, but they leave the inner foundational shape unchanged and the square phase of architecture which the horizontal section of the curvilinear variety of 'Nāgara Śikharas' displays remains untouched. Thus the curvilinear types of 'Nāgara Śikharas' of North Indian can be brought under the 'Nāgara' class defined in the *Silpaśāstras*, if by the shape of Śikhara we mean the shape at the horizontal section of the Śikhara or the inner section shorn of the later modifications and additions in shape. The fundamental square section of Nāgara may be attributed to the inherent quality of the material wood, if we grant the supposition that the structures which gave significance to ancient cities were originally of wooden make.

Based on a wrong rendering of the term 'Yugāśra' as 'two-cornered'⁵⁹⁴ Dr. Gravely and Mr. Ramachandran remark that Śrikumāra, the

593. "The Arts of To-day" (ed. Geoffrey Grigson) [The Bodley Head], Section on Architecture, p. 280.

594. "Three Main Styles of Indian Temple Architecture" by Gravely and Ramachandran (Bulletin, Madras Govt. Museum, New Series, General section, Vol. III, Pt. 1), pp. 3 and 5.

author of the *Śilparatna*, is confused in his account of 'Nāgara'. The author of the *Śilparatna*, as usual in other contexts, follows our author and adopts the present stanza in his work with slight change in the reading of two expressions. Thus 'Mūlādyā śikharam' is read in the *Śilparatna* as 'Mūlādā śikharam' and पृथगातलक्ष्मसु विदध्यात् as पृथगातलक्ष्म सुविदध्यात्|. It is clear beyond doubt that the text attributed to Śrīkumāra is originally the text of the *Tantrasamuccaya*. After quoting and translating two stanzas which define 'Nāgara', the authors of the "*Three Main Styles of Indian Temple Architecture*" remark: "Both the definitions of Nāgara agree with those of the *Mānasāra* and *Suprabhedāgama* in saying that the characteristic shape extends from bottom to the top; but both give this shape as "two-cornered". So far as we know, "two-cornered" can only relate to an apsidal building; but of this there is here no further indication, and Nāgara is the only style in which such buildings are *not* mentioned in the *Mānasāra* definitions. Obviously the *Śilparatna* account is confused and we suspect etc."⁵⁹⁵ Here, it deserves to be remembered that the term 'Yuga' is used not in the sense of two, but in the sense of *four* (this *saṅkhyāvācaka* symbolising the number *four* having reference to the four Yugas—Kṛta, Dhṛta, Dvāpāra and Kali). The commentator Śaṅkara paraphrases "युगाश्ररचितम्" in the words "चतुरश्ररूपेण कृतम्"⁵⁹⁶. There is thus no room for doubt as to the interpretation of Yuga in the sense of four, and the slur cast on Śrīkumāra is obviously unfounded and based on the wrong interpretation of Yuga in the sense of two. The description of Nāgara as square style, given in our text and as accepted by Śrīkumāra, squares with the definition of Nāgara found in the works of other authors. The statement of Śrīkumāra—"सर्वाणि सर्वदेशेषु भवन्तीत्यपि केचन ||"—⁵⁹⁷ appears to us as a mere record of the fact that all styles are found practised in all parts, and that they should not be confined rigidly within the limits of geographical divisions of the country. The main basis of classification being shape, much stress need not be laid on geographical implications. In the same place different styles are found practised side by side. The temples of Mahābalipuram may be cited as one such instance in point. In Kerala the square and circular styles are very commonly met with.

595. *Ibid.* p. 5.

596. *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.); Part I, page 92.

597. *Śilparatna* (T.S.S. Ed., Vol. I), XVI, 44(2).

As examples of some of the types, the following references may be noted :—

Nāgara style.—Naṭarāja Temple, Chidambaram. (Vide Plate I, Fig. XI, Annamalai University Journal, Vol. V, No. 2, Article on Śikhara); Kitholi Temple, Cranganore, and Śiva Temple, Trichur (*Ibid.*, Pl. II, figures XII, XIII).

Drāviḍa Style.—The great temple at Tanjore (Pl. I, Fig. X). Mahābalipuram group (Plate IV. A. U. Journal).

Vesara Style.—The central shrine at Trichur, and the shrine at Irīñjālakkuḍa. (Pl. III, Figs. XIV, XV).

Hastiprsthā Style.—Mahābalipuram temple—(plate IV, Figs. XVI, XVII (Annamalai University Journal, *Ibid.*); *Kapoteśvara* temple at Chezarla (Annual Report of Archaeological Department, Southern Circle, Madras, 1917—18, Plate XVII), and *Ananteśvara* temple at Udipi (*Ibid.*, Rept—1920-21. Fig. 2).

Caturaśra, *Aṣṭāśra* and *Dīrghacaturaśra*.—grouped side by side at Māmallapuram (Vide Annamalai University Journal Vol. V, No. 2, Article on Śikhara, Pl. IV, Fig. XIV).

If we compare the *Mānasāra* with our text in the matter of details, in this context, it will be found that with regard to the combination of shapes, the *Mānasāra* is more elaborate than the *Tantrasamuccaya*. The text of the *Mānasāra* on 'Nāgarādividhāna' as presented in P. K. Ācārya's edition needs to be emended in many places in order to make it yield the ideas in respect of which there is consensus of opinion among the different authorities. In a recent article on 'Mānasāra on Nāgarādividhāna' Prof. Pisharoti has attempted to present an emended text and translation as follows :—

“ चतुरश्राकृतिं यत्तु नागरं तत् प्रकीर्तितम् ।

मूलाद्रा वृत्तमाकारं तद्वृत्तायतमेव वा ॥

ग्रीवादिस्तूपिपर्यन्तं ग्रीवस्याधो युगाश्रकम् ।

आमूलाग्रं द्व्यश्रकं वा वेसरीनामकं भवेत् ॥

मूलाद्रा स्तूपिपर्यन्तमष्टाश्रं वा षडश्रकम् ।

तदेव चायतं वापि ग्रीवस्याधो युगाश्रकम् ॥

पूर्ववच्चोर्ध्वदेशं स्याद्द्राविडं परिकीर्तितम् ॥”

(Lines 93 to 99).

- “ (93) That which has a square shape is well known as *Nāgara*,
 (94) What is circular or ellipsoidal from the base (upwards)
 (95) Or from above the neck to the finial, the part below being square;
 (96) Or what is apsidal from the base to the top may be termed *Vesara*,
 (97) From the base upwards to the finial what is hexagonal or octagonal,
 (98) Or the same elongated; or what has the part below the neck square,
 (99) That above being as laid down before, is termed *Drāviḍa*. ”⁵⁹⁸

The different shapes which characterise the various styles according to the several authorities like the *Kāmikāgama*, *Suprabhedāgama*, *Mayamata*, *Kāśyapaśilpa*, *Gurudevapaddhati*, *Mānāsāra* and *Tantrasamuccaya* may be tabulated as follows :—

Texts.	Styles.					
	Nāgare		Drāviḍa		Vesara	
	Pure.		Pure.	Composite	Pure.	Composite
	Bod. and Śikhara.		Body and Śikhara.	Body: Śikhara	Body and Śikhara.	Body: Śikhara
1. <i>Kāmikāgama</i>	Sq.; rect.		H.; HE.	Sq.: Oct.	C.; Ell.	Sq.: C.
2. <i>Suprabhedāgama</i>	Sq.			Sq.: H.		Sq.: C.
3. <i>Kāśyapaśilpa</i>	Sq.			Sq.: Oct.		Sq.: C.
4. <i>Mayamata</i>	Sq.; Rect.		H.; Oct.; HE.; OE.	Sq.: Oct.	C.; Ell. Ap.	Sq.: C.
5. <i>Gurudevapaddhati</i>	Sq.; Rect.		H., HE.; O.; OE.	Sq.: Oct.	C.; Ell. Ap.	Sq.: C.
6. <i>Mānasāra</i>	Sq.		H., HE.; O., OE.	Sq.: H, Oct.		Sq.: C. Sq.: Ell. Sq.: Ap.
7. <i>Tantrasamuccaya</i>	Sq.			Sq.: H, Oct.		Sq.: C.

[Here Sq.=Square; Rect.=Rectangle; H=Hexagon; H.E.=Hexagon elongated; Oct.=Octagon; OE=Octagon elongated; C=Circular; Ell.=Ellipsoidal; A=Apsidal].

It will be clear from the above table that Nāgara, according to all authorities, is always a purely four-sided structure which may be square or rectangular, and that wherever that shape is of a mixed character, the body portion will be square. Shape of the Śikhara therefore might be said to constitute the fundamental basis of classification of style according to architectural authorities in India.

Vesara :—The term ‘*Vesara*’ in its primary significatory capacity means ‘a mule.’ In architectural literature it is used figuratively to convey the sense of circular style of construction. *Vesara* or mule is a product of the combination of horse and ass, and while it is thus a product it does not reproduce. In the conception of Hindu builders a circle is a derivation from the fundamental square through an increase in the number of sides and elimination of corners; and while it is thus a derivation, it does not form the basis of any transformation in shape. The *Tantrasamuccaya* (II, 125) in the wake of the *Mañjarī* in the course of the description of the square base, the octagonal middle and circular top of a Līṅga directs the designing of the octagonal and circular sections as follows :—

“तुर्यांशे सुसमे प्रसार्य भुजसूत्रं कर्णसूत्राध्वना
तस्यान्ताहितलक्ष्मसु प्रतिदिशं द्वे द्वे भुजासूत्रके ।
कृत्वा तद्द्वयमध्यसंस्थितचतुष्कोणानि संशोध्य सा—
ध्वयांश्च विदधीत वृत्तमपि तद्द्वयष्टाश्रकादिक्रमात् ।”

(The stanza has been explained and illustrated in my paper on *Nāgara*, *Drāviḍa* and *Vesara* in the J.I.S.O.A., Vol. IX).

Accessory Structure—‘Aṅgas’

Prof. Pisharoti⁵⁹⁹ observes that the *Sanctum Sanctorum* is the central ‘Aṅgin’ on which the architect spends his thought and skill, while every subordinate structure figures as an ‘Aṅga’ or appendage. The accessory structures in their disposition bear a due sense of proportion to the central shrine. We might consequently remark that the importance of the *Sanctum Sanctorum* is ‘absolute’, while that of the other structures associated with it is ‘relative’ or ‘subordinate’.

599. “Some Architectural conventions of South India,” vide the *Cultural Heritage of India*, Vol. III, p. 527.

STANZA 72

Mukhamaṇḍapa

The Mukhamaṇḍapa which is described in the present stanza is the ante-chamber, the porch constructed in front of the cell that holds the image. The Vivaraṇakāra remarks that it is built in response to the requirement of additional structural expansion. Its dimensions bear a fixed sense of proportion to the 'Dhāman' or the principal edifice. In the text, five alternative proportions are prescribed for the breadth of the Mukhamaṇḍapa. Thus the breadth of the Mukhamaṇḍapa may be $\frac{1}{2}$, $\frac{3}{5}$, $\frac{4}{7}$, $\frac{6}{10}$, ($\frac{4}{10}$ or $\frac{5}{12}$ of the vistāra of the principal structure. The author of the *Śilparatna* in his extract gives the reading अङ्ग for अङ्ग. Aṅgas are 6, and the proportion $\frac{6}{10}$ i.e. $\frac{3}{5}$ is a mere repetition of what has already been referred to as $\frac{3}{5}$, and hence the fourth alternative should be different. K. Nilakaṇṭhan Āśāri, in a vernacular text known as '*Śilpiratna*,' refers to the four proportions given in our text, and also gives $\frac{3}{5}$. If we accept this proportion $\frac{3}{5}$ as the fourth alternative proportion, then we evade what otherwise sounds like a repetition. The length of the Mukhamaṇḍapa, according to the text, is half, three-fourth of, or equal to the breadth of the central shrine. The following statement is found in the *Śilparatna*, which characterises the alternative proportions as belonging to the lowest, middling and the best types :—

“हर्म्यतारार्धमानं तु कन्यसं मुखमण्डपम् ।
हर्म्यतारमुखं श्रेष्ठं त्रिपादं मध्यमं पुनः ॥”⁶⁰⁰

STANZA 73

The Pañcaprākāras

The author in this stanza refers to the five-fold division of the temple area that surrounds the *Sanctum Sanctorum*. There are five enclosures called 'Pañcaprākāras' and, beginning with the innermost and ending with the outermost limit, they are known as Antarmaṇḍala, Antahārā, Madhyahārā, Bāhyahārā and Maryādā. The five Prākāras,

according to vernacular commentators, are known by the following vernacular terms:—(1) 'Akatte Balivaṭṭam,' (2) 'Cuttambalam' or 'Nālabalam,' (3) 'Viḷakkumāḍham,' (4) 'Śivelippura,' and (5) 'Puramatil' in order. The *Antarmaṇḍala* as the term indicates, is the internal circle and its margin marks the seat of the internal 'Dikpālas' or guardians of the quarters. '*Antahārā*' is the quadrangular structure which runs round the shrine and beyond the margin of *Antarmaṇḍala*. Beyond '*Antahārā*' is situated the '*Madhyahārā*', which is a circumambulatory roofed structure carrying all around rows of lights, usually arranged in nine tiers. These lights adorn and illumine, when lit, the outer face of its wall. The Malayālam term 'Viḷakkumāḍham', which means light-house, brings out the utilitarian motif of this structure, which is to hold the tiers of lights referred to above. The enclosure beyond the *Madhyahārā* is the *Bāhyahārā* along whose line the external *Dikpālas* are situated. The 'Balipīṭha', or Oblation-stone, is placed in its outer limit. Malayālam commentators identify it with 'Śivelippura', which is a structure intended as a processional path round the sanctum beyond the *Madhyahārā*. The outer line of *Bāhyahārā* forms, however, the seat of the external *Dikpālas*, to whom oblation is offered during annual festive occasions. '*Maryādā*' is the outermost limit of the temple area, and in this fifth and final boundary or enclosure is built a massive wall which surrounds the sanctum. This surrounding wall is broken at the main quarters by gateways called 'Gopuras'. These are the five enclosures, one beyond the other, whose disposition forms the subject matter of the section that follows. The present stanza prescribes the distance which each enclosure is to keep from the central shrine. Half a *Daṇḍa* from the *Mūlaprāsāda* constitutes the *Antarmaṇḍala*, which is the seat of the 8 *Dikpālas*; one *Daṇḍa* or one *Daṇḍa* and a half, the *Antarhārā*; two *Daṇḍas* off, the *Madhyahārā*; four *Daṇḍas* off, the *Bāhyahārā*; and seven *Daṇḍas* away from the *Mūladhāman*, the final boundary known as '*Mahāmaryādā*.' This last, viz., *Mahāmaryādā*, may be alternatively 21 *Daṇḍas* away from the central shrine. All *Prākāras*, except the first, namely, *Antarmaṇḍala* and the last *Mahāmaryādā*, will be accompanied by a '*Mukhāyāma*' or facade.

The term '*Daṇḍa*' referred to here is used in a special sense and is distinct and different from '*Daṇḍa*' which is the top-measure of a pillar. The significance of *Daṇḍa* employed here to measure the disposition of the enclosures is explained in the next verse.

The five Prākāras referred to here are also referred to in allied texts like the *Viṣṇusamhitā*, *Pāśupata*, *Mañjarī*, *Gurudevapaddhati*, and *Mānasāra*’.

The *Viṣṇusamhitā*⁶⁰¹ thus states:

“ अन्तर्मण्डलदण्डार्धदण्डे स्यादन्तहारका ।
मध्यहारा द्विदण्डा च चतुर्मर्यादभित्तिका ॥
सप्तदण्डायता कार्या मर्यादा भित्तिका ततः ।”

This text is from the Trivandrum Edition. The relevant text, which reads better, is supplied by Śaṅkara in his *Vimarśinī*, and it runs as follows:⁶⁰²

“ अन्तर्मण्डलदण्डार्धे दण्डे स्यादन्तहारका ।
मध्यहारा द्विदण्डा च चतुर्मर्यादभित्तिका ॥
सप्तदण्डायता कार्या मर्यादा महती तथा ।”

The text may thus be tabulated:—

Antarmanḍala	..	½ a Daṇḍa from the shrine.
Antahārā	..	1 Daṇḍa from the shrine.
Madhyahārā	..	2 Daṇḍas from the shrine
Maryādabhitti	..	4 Daṇḍas from the shrine
Mahāmaryādā	..	7 Daṇḍas from the shrine

With regard to the last two structures referred to in the list there is slight discrepancy in the nomenclature adopted. What the author of the *Tantrasamuccaya* calls ‘Bāhyahārā’ is termed ‘Maryādabhitti’ in the *Viṣṇusamhitā*. What is called merely ‘Maryādā’ in our text is termed ‘Mahāmaryādā’ in the *Viṣṇusamhitā*.

601. *Viṣṇusamhitā*, Paṭala XIX, Sts. 24, 25⁽¹⁾ (T.S.S. Ed.).

602. *Tantrasamuccaya* with *Vimarśinī* (T.S.S. Ed.), Part I, p. 93.

The following stanza is found in the *Mañjarī*⁶⁰³ :—

“ अन्तर्मण्डलमष्टमूर्तिनिलयं दण्डार्धतः सम्मितम् ।
दण्डे तत्पुरतोऽर्धदण्डसहिते स्यादन्तहारा गृहात् ॥
दण्डैर्वापि तदेकविंशसहिते स्यान्मध्यहारा तथा ।
मर्यादा महती च भित्तिरुदिता दण्डोऽत्र धामोत्तरम् ॥”

In the *Vimarśinī* the following extract from the *Pāśupata*⁶⁰⁴ is found:—

“ सप्तसीमासमायुक्तं स्थानं सर्वदिवौकसाम् ।
अन्तर्मण्डलमायं स्याद् दण्डार्धे जगतीस्थलात् ॥
तस्मादप्येकदण्डान्ते चान्तहारा गृहाद् बहिः ।
मूलस्थानाद् द्विदण्डान्ते दीपशाला सुशोभना ॥
नीचहारां ततः कुर्याद् दण्डार्धे भित्तिरुज्ज्वला ।
मध्यहारा चतुर्दण्डे मर्यादा सप्तसंमिते ॥
एकविंशतिदण्डान्ते महम्मर्यादभित्तिका ।”

Here it will be noted that the *Pāśupata* lays down 7 boundaries as the surrounding enclosures of a shrine: (1) Antarmaṇḍala, (2) Anta-
hārā, (3) Dikpāla, (4) Nīcāhārā, (5) Bhatti, (6) Madhyahārā, (7)
Maryādā, or Mahāmaryādabhitti. The last ‘Mahāmaryādabhitti’ is so
called because it keeps the largest distance (of 21 Daṇḍas) from the
central shrine.

The *Mānasāra*⁶⁰⁵ describes the functions of these five Prākāras in the
following stanza:—

“ बल्यर्थं परिवारार्थं शोभार्थं रक्षणार्थकम् ।
पञ्चप्राकारहर्म्याणामधुना वक्ष्यते क्रमात् ॥”

The five enclosures, according to the *Mānasāra*, are to be made to
serve different functions like the offering of oblation, attendance,
imparting of splendour and giving of protection—all these consistent
with the ideal of divine service which under the Tāntric aspect as
illustrated above commands regal honour and glory.

603. *Prayogamañjarī*, Paṭala VI, (Ms. Adyar Mss. Library).

604. *Tantrasamuccaya* with *Vimarśinī* (T.S.S. Ed.), Part I, p. 93.

605. *Mānasāra*, Ch. XXXI, Stanza 1.

The *Mānasāra*⁶⁰⁶ enumerates the five Prākāras in the following stanzas quoted below :—

“ आदिशालां ततः कुर्यादन्तर्मण्डलमीरितम् ।
 द्वितीयमन्तहारा च मध्यहारा तृतीयकम् ॥
 प्राकारं तच्चतुर्थं च कथितं तन्मयादिकम् ।
 ततः पञ्चमशाला च महामर्यादमीरितम् ॥
 पञ्चशालामिति प्रोक्तं तन्त्रविद्भिः पुरातनैः ॥”

Gurudeva⁶⁰⁷ also refers to the 5 Prākāras in the following verses:—

“ प्रासादभवनादीनां रक्षालङ्कारसिद्धये ।
 वप्राणि क्रमशः कुर्यात् पञ्चत्रिद्व्येकसङ्ख्यया ॥
 तत्रान्तर्मण्डलं त्वाद्यमन्तर्हाराथ तद्वहिः ।
 मध्यहारा च मर्यादा महामर्यादकं ततः ॥”

STANZA 74

Daṇḍa and Mukhāyāma described

The measure known as ‘*Daṇḍa*’ which is referred to in connection with the measurement of the Pañcaprākāras is defined in the present stanza. It is the Vyāsa of the utara, or of the Kumuda or of the Pāduka. ‘*Vyāsa*’ is the breadth, and this consists of the distance between the uttaras placed opposite to each other in the case of ‘*uttara Daṇḍa*’; in other words, it is the breadth of the outer utara itself. This Vyāsa of the utara is the first kind of *Daṇḍa*. Similarly, the breadth of the Kumuda gives the second kind of *Daṇḍa* and the breadth of the Jagati the third type of *Daṇḍa*. Thus three types of measures are prescribed, which characterise three kinds of *Daṇḍa*, and they are referred to above as ‘*Uttara-Daṇḍa*’, ‘*Kumuda-Daṇḍa*’ and ‘*Pāduka-Daṇḍa*.’ The applicability of these three units of measures is also laid down, and any one

606. *Ibid*, Stanzas 6, 7, 8.

607. *Gurudevapaddhati*, Uttarārdha, Paṭala XXXV, 44, 45.

which is chosen must start its measure from that place from where it derives its name. Thus, if it is the Uttara-Daṇḍa that is employed, the measurement must start from the outer-limit of the Uttara; if it is Kumuda-Daṇḍa, from the outer-limit of the Kumuda; and if it is Pāduka-Daṇḍa, from the limit of the Pāduka. In other words, the direction urges that the use of any one of the three kinds of Daṇḍa measure must be made from the outer extent of that part with which particular Daṇḍa is found associated and from which it takes its distinct nomenclature.

The three classes of Daṇḍa are characterised by a slight variation in their measure, and this variation is in accordance with the difference that marks the measurement of the three parts, 'Uttara,' 'Kumuda,' and 'Pāduka'. It will be noted here that the Kumuda, possesses a larger measure than the 'Uttara'. Of all the three, the Pāduka is the largest and the Uttara the smallest. The length of the Mukhāyāma, or facade, is next described in the latter part of this stanza. The measure of the Mukhāyāma may be one, one and a quarter, one and a half, or one and three-fourths of a Daṇḍa. The Mukhāyāma whose measure is here laid down is the one which is prescribed for the Antahārā, Madhyahārā and Bāhyahārā. The proportion of the Mukhāyāma which our author has stated is supported by the following reference to it from the *Viṣṇusamhitā* and *Pāśupata*.

The *Viṣṇusamhitā*⁶⁰⁸ observes:—

“मुखायामस्त्रिभागेन पादेनार्धेन वा पुनः ॥”

Pāśupata states⁶⁰⁹:—

“अर्धेन पादहीनेन समस्तेनोत्तरेण तु ।”

STANZA 75

In this stanza the author treats of the outer-limit of the first Prākāra and the location of Balipīṭhas. Eight are the Dikpālas, who are supposed to guard and preside over the eight quarters consisting

608. *Viṣṇusamhitā*, Paṭ. XIX, 25 (T.S.S. Ed.).

609. *Pāśupata* quoted in *Vimarśinī* of the *Tantrasamuccaya*, Part I, p. 94. (T.S.S. Ed.).

of four 'Diks' (main sides) and four 'Vidiks' (corners). The eight Dikpālas are referred to in the following stanza⁶¹⁰:—

“ इन्द्रो यमश्च वरुणः सोमोऽग्निर्निर्ऋतिस्तथा ।
वायुरीशान इत्यष्टौ लोकपालास्तु तद्वहिः ॥”

Indra is the guardian of due East ; Yama, of due South ; Varuṇa, of due West; and Soma, of due North. Agni is the lord over the South-East ; Vāyu, over the North-West; and Īśāna, over the North-East; Nirṛti, over the South-West. To these eight Dikpālas is offered oblation on festive occasions, and the oblation-stones dedicated to these guardians of quarters are known as 'Balipīṭhas.' Corresponding to the eight Dikpālas, there are eight oblation stones and their exact disposition is described in this verse. The top-measure of the Balipīṭha must be divided into five parts, and the Balipīṭha should be so situated that three parts thereof should come inside the boundary line of the Antarmaṇḍala and two parts outside it. The eastern and southern Dikpālas will lie in their own sūtras, while others of the West and North will be shifted slightly in the circumambulatory direction. The Vivaraṇakāra⁶¹¹ remarks in this connection:—

पश्चिमोत्तरदिक्पालाश्चत्वारः । तस्मिन् सूत्र एव किञ्चित्प्रादक्षिण्येन प्रतिमाङ्गुलादि-
मानेन गमयितव्याः ॥

Īśāna and Indra are Prācyas, and Agni and Yama are Avācyas. These Prācyas and Avācyas should remain in their sūtra, but the rest must be shifted slightly from their sūtra. The amount of shifting, as stated in a Malayalam commentary⁶¹² and as supported by the *Viṣṇusamhitā*, is the same as the distance that subsists between the eyes of the Pīṭha. Thus the Balipīṭha, to be situated in the western line should be so moved northwards that the right eye of the Pīṭha, on that line should keep line with the right eye of the opposite Pīṭha, which is situated in the eastern direction and which is described as facing the western direction. If all the Pīṭhas are situated exactly in the same line, then the right eye of each Pīṭha will meet the left eye of the Pīṭha that faces it from the corresponding opposite direction. By a slight movement in the circumambulatory

610. *Viṣṇusamhitā*, Pat. XXIII, Stanza 9.

611. *Tantrasamuccayavivaraṇa*, R. No. 1994 Ms. (G.O.M.L., Madras).

612. Ms. R. No. 4.128 (G.O.M.L., Madras).

direction of the Western and Northern Piṭhas, as described above, the right eye of one will meet the right eye of the opposite that faces it. In the last quarter of the stanza the author lays down that the eastern and southern guardians of quarters which lie in their sūtras, and the others which are shifted slightly in the circumambulatory direction—both these will face the main quarters and one another. Accordingly Īśāna, Indra and Agni will face the western direction; Nirṛti, Varuṇa and Vāyu the eastern direction; Soma the southern direction and Yama the Northern direction. Again, each will face the other on the opposite side. Thus Indra will face Varuṇa, and Varuṇa, Indra; Agni will face Nirṛti, and Nirṛti, Agni; Yama will face Soma and Soma, Yama; Vāyu will face Īśāna and Īśāna, Vāyu. The idea underlying this rule of facing is that no guardian of quarters should be made to face the corners. Īśāna and Nirṛti, Agni and Vāyu, for instance, should not be allowed to mutually face each other. This explanation is based upon the interpretation that the Vivaraṇakāra has given in the lines noted below⁶¹³:—

“पूर्वे त्रयः पश्चिमास्त्रयश्च परस्परमभिमुखाः । अत एव महादिगभिमुखाश्च । महा-
दिगभिमुखा इति वचनं अग्निवाय्वोः ईशनिर्ऋत्योश्च परस्परसम्मुखत्वं मा गृह्येत इत्येतदर्थं
दक्षिणोत्तरौ तु परस्परसम्मुखौ स्यातामिति चार्थः ॥”

In support of the observation made in this stanza, we shall take note of the text of the *Viṣṇusaṃhitā* quoted below⁶¹⁴:—

“पूर्वास्त्वप्रतिचाख्याः स्युरितराश्चास्थिराः शुभाः ।
अन्योन्याभिमुखाः कार्यास्तथान्ये दक्षिणोत्तराः ॥
अन्योन्यं दक्षिणाक्षिभ्यां प्रशस्तं दर्शनं द्वयोः ।
अप्रशस्तं च विज्ञेयं तथा वामाक्षिदर्शनम् ॥”

The following extracts attributed to the *Mañjarī*⁶¹⁵ may be noted:—

“अन्तर्मण्डलसीमान्ते लोकेशानां हि पीठिका ।
विरिञ्चस्येशपूर्वेण नैर्ऋत्यां पश्चिमोत्तरे ॥
अनन्तस्योत्तरे सोमात् कुबेरस्य ॥”

613. *Ibid.*

614. *Viṣṇusaṃhitā*, Paṭala XXIII, stanzas 62, 68. (T. S. S. Ed.).

615. Quotation, *Vide Vimarśinī, Tantrasamuccaya*, Part I, pp. 94-95. (T. S. S. Ed.).

STANZA 76.

The author in this stanza treats of the disposition and features of what is known as 'Arcanāmaṇḍapa' or 'Namaskāramaṇḍapa.' It will be noted here that this structure is an additional one, built within the precincts of the temple area, and does not constitute one of the five Prākāras. It is intended to give room to devotees who come to have a view of the God and to pay Him their homage. It deserves to be remembered in this connection, that the temple proper is distinct and different in its purpose from accessory structures like the Arcanāmaṇḍapa. As Dr. Coomaraswamy⁶¹⁵ would observe, "it should be understood that the temple is a dwelling erected for the God, not for congregation: the latter visit the temple, not to take part in the service, but to see (darśana) the God and do their reverence". Here service which involves observance of rituals comes within the province of the duty of the officiating priests. The Arcanāmaṇḍapa is constructed for the convenience of the visitors who come to the temple to see God and pay Him their respects. The place of importance is given to the Prāsāda, the dwelling of God, and these accessory structures, such as the different courts built around the shrine, are regarded as useful inasmuch as they serve to enhance the dignity of the central shrine and express the sense of regal honour that characterises the mode of divine service in the system of image-worship. The exact location of the Arcanāmaṇḍapa is first described. It may be situated a cubit away from the limit of the Antarmaṇḍala. In this case the limit of the Uttara or Pāduka of the Pūjāmaṇḍapa will come where a cubit measure of space is found extended in front, beyond the boundary line of the Antarmaṇḍala. In the second alternative case of disposition the centre of the Arcanāmaṇḍapa must be made to coincide with the centre of the intervening area between the Bāhyottara of the sanctum sanctorum and Ārūḍhottara (i.e. internal Uttara) of the Antahārā. Coming to the shape of the Pūjāmaṇḍapa, it will be noted that the shape is described as Turyāśra or square, having its own Adhiṣṭhāna. In other words, it will be a structure having a square base surmounted by a pyramid above. Its Adhiṣṭhāna will be of the same type and description as the Adhiṣṭhāna of the *Sanctum Sanctorum*. Thus, if the Adhiṣṭhāna of the temple is of the Pādabandha class, that of the Arcanāmaṇḍapa will also be of the same class. The Arcanāmaṇḍapa will possess a single

Uttara supported by four pillars; in this case, it will be small in size. If the size is bigger, then, it will have two *uttaras* borne by sixteen pillars. Here, the internal *Uttara* (*Ārūdhottara*) will be supported by 4 pillars and the outer *Uttara* (*Bāhyottara*) by twelve. Thus there will be two *uttaras* and sixteen pillars for the *Arcanāmaṇḍapa* of larger size. A vernacular interpreter, *Dāmodaran Nambūdirippāḍ*, adds that the *Arcanāmaṇḍapa* must possess an opposite *Yoni* and it must be so because the *Maṇḍapa* should face the main shrine.

In the last quarter of the stanza the author tells us that this *Maṇḍapa* must be adorned with such ornamental motifs as *Makuṭa* (*Stūpikā*) and the like, which embellish the main shrine. In this list of ornamentation of the top of the *Maṇḍapa* may be mentioned *Valabhi*, *Kapota*, etc. The phrase “समकुटाचालङ्क्रियालङ्कृतम्” tends to suggest two points. One is that the *Stūpikā* or finial (*Makuṭa*) employed at the top of the *Maṇḍapa* is a decorative element, rather than a constructive one. Secondly, the primary reference to the top-portion suggests that beneath the *Prastara* the structure is open on all the sides. The *Maṇḍapa* being a pillared hall and not enclosed space, there is no question of wall-decorations in it, such as the *Kūṭas* and *Śālās*. Any ornamentation that can be wrought in the said portion below the *Uttara* and above the *Adhiṣṭhāna* will be restricted to pillars, and all the wall decorations cannot be displayed in the case of the *Maṇḍapa* structure, owing to the absence of walls in such a structure. Hence the reference relates primarily to the ornamentation of those structural parts which are possessed in common by both the main shrine and its accessory structure, such as the *Adhiṣṭhāna*, *Stambha*, *Prastara*, etc. *Śaṅkara* quotes an authority whose name is not mentioned, and this authority states the dimensions of the *Maṇḍapa*, the number of floors it might possess, the nature of its decoration and composition, which should not be different from that of the *Prāsāda*. It runs as follows:⁶¹⁷—

“समं त्रिपादमर्धं वा प्रासादस्य तु मण्डपम् ।
 पुरस्तादुक्तमानानां तल्लिङ्गधेकतलं तु वा ॥
 प्रासादतुल्यालङ्कारं तत्समाङ्गं च मण्डयेत् ॥”

617. *Tantrasamuccaya* with *Vimarsinī*, Part I, p. 95 (T. S. S. Ed.).

STANZA 77

The limit of the Antarmaṇḍala has been described and the extremity of the remaining Prākāras remain to be fixed. In this stanza, the author sets to describe the outer-limit of the remaining Prākāras. The outer wall of the Antahārā should be built beyond its own Daṇḍa extremity. The Antahārā described in the succeeding stanza is composed of two Maṇḍapas on either side of the main shrine, one Maṇḍapa at its back, and these three structures are linked together. The wall that is here referred to is the one which should be constructed beyond the Daṇḍa extremity of the Antahārā, which is composed of circumambulatory construction as described above, viz. the construction excluding the front structure. The Antahārā made up of structures on either side of the shrine and at the back has one Uttara and this lies beyond the Daṇḍa extremity. The front structure known as Sabhā has two Uttaras, Ārūḍhottara and Bāhyottara. The Ārūḍhottara of the Sabhā keeps line with the circumambulatory structure of the Antahārā running round the main shrine on the three quarters (two sides and the back of the main shrine). Extending outwards, there is situated the Bāhyottara or the external Uttara. We have observed on a previous occasion that the construction of two Uttaras, one Ārūḍha and the other Bāhya, is a necessity where the structure is of a large size. The Sabhā built in front is comparatively a larger structure than the three square structures built on the three sides round the shrine. The three square structures which surround the main shrine on its three sides are locally termed the 'Cut-tambalam' (circumambulatory structure), and the Sabhā, or the hall built in front of the sanctum sanctorum, is called the 'Valiambalam' (big structure). There is no doubt that the Sabhā is bigger than the surrounding three square structures, and by reason of its larger size it demands two Uttaras, internal and external. Based on this presence of two Uttaras, the Daṇḍa extremity of the Sabhā is said to be of two kinds. It may be fixed with reference to either the extremity of the Ārūḍhottara or the extremity of the Bāhyottara. In the third enclosure Madhyahārā, which is said to contain the structure carrying lights, the Daṇḍa extremity should rest where the flame of the lamp extends. The Daṇḍa extremity of the fourth enclosure (i.e. the Bāhyahārā) will be inside the internal Uttara. In the case of the Mahāmaryādā the Daṇḍa extremity will lie at the external face of the outer Uttara.

STANZA 78

The process of making the *Antahārā* is next described. There should be built three square *Maṇḍapas* on the three quarters. Of these, one will be behind the main shrine, and two on the two sides (*Pārśvas*). Each one of these *Maṇḍapas* must have the *Yoni* of its quarter, which is its *Yoni* proper. The qualifying expression “*स्वमूलयोन्यन्वितम्*” is interpreted by Śāṅkara⁶¹⁸ in this sense, and he explains it as “*स्वत्तदिग्भवयोन्युपकृतम्*”. Thus, according to the commentator Śāṅkara, this text means that the structure should be given the *Yoni* of the place where it stands. The *Vivaraṇakāra*, on the other hand, finds in the expression an alternative suggestion that these *Maṇḍapas* may possess the *Yoni* of the *Mūla* (i.e. the central) shrine. Says he:⁶¹⁹

“*स्वमूलयोन्यन्वितम्—स्वयोन्यन्वितं, मूलयोन्यन्वितं वेत्यर्थः॥ स्वयोनिर्दिग्योनिः॥*”

Śāṅkara, however, understands the term in only one sense, namely, that each *Maṇḍapa* must have the *Yoni* of the quarter in which it stands. These square *Maṇḍapas*, built on the three main quarters, should then be extended to the corners, and the intervening spaces must then be connected or linked together. These then, the three *Maṇḍapas* on the three sides and the extended and connecting structures, constitute what is termed the ‘*Antahārā*’. This surrounding structure around the three sides of the central shrine is locally known as ‘*Cuttambalam*’ and the structure which comes in the front, which is described in the next stanza, is termed ‘*Sabhā*’ in Sanskrit, and ‘*Valiambalam*’ in the vernacular.

STANZA 79.

This stanza treats of the construction of the *Sabhā*. The *Sabhā* should be built in front of the shrine. Along the *Daṇḍa* extremity of the *Antahārā* together with its *Mukhāyāma*—(for, the *Daṇḍa* extremity of the *Prākāra* is inclusive of its *Mukhāyāma*)—fix up an *uttara* in the *sabha* in front. The *uttara*, here referred to, forms the external *uttara* of the *Antahārā* and it runs through the length of the *Sabhā*. Reference was made in the previous stanza to structures on either side

618. *Tantrasamuccaya* with *Vimarśinī*, Part I, p. 96 (T. S. S. Ed.).

619. *Vivaraṇa*, Ms. No. 1994 (G.O.M.L., Madras).

of the central shrine. Now, the top and base of the Uttara which extends through the length of the Sabhā should be securely fastened to the Uttara of the Pārśvahārā (structure on either side of the central shrine). After having fixed the Uttara that runs along the length of the Sabhā to the Uttaras of the wings (Pārśvahārās) the author directs us in the latter part of the stanza to fix the breadth of the Sabhā and then to place two Uttaras, as the nature of the structure demands. The Yoni that is assigned to it should be proper to the quarter in which it is situated. There are fixed and approved proportions, known as 'Guṇavibhāga' and 'Padavistāra', and the breadth that is to be accepted for the Sabhā should conform to the well-known proportion. *Guṇavibhāga* is a formula which involves the division of the perimeter into certain well-known parts, and the breadth that is to be given to the Sabhā should be determined with reference to any number of such well-known parts into which the perimeter may be divided. The formula 'Guṇavibhāga' is so called because it involves Guṇa (āvr̥tti) of Vibhāgas or parts. The number of the Uttaras such as the Ārūḍha and others will be made as befits the size and structural necessity of the Sabhā.

In a Malayālam Manuscript of the *Tantrasamuccaya*⁶²⁰ a stanza is found stated which deals with the formula of Guṇavistāra. It runs thus:—

“ षड्दस्तादिकवंशमाननिचयेऽष्टध्वे सदिक्स्वङ्गके
 त्र्यंशीकृत्य तदेककेन गृहनाहे कल्पितेऽर्थीकृते ।
 वेदध्वे रविविश्ववासवविकारात्यष्टिसाष्टादशा-
 द्धन्वे मध्यहते फलेन विततिः तन्न्यूननाहाततिः ॥”

Multiply the desired length of the Uttara beginning with 6 cubits, etc., by 8. Add on to it any number, such as 1, 5 etc. which stands to represent the quarter such as the East etc. Divide this result by 3 and assign one part thereof to the perimeter of the 'Uttara'. Divide this perimeter by two, and then multiply the result by 4. Divide this by any one of the numbers 12, 13, 14, 16, 17, 18, 20, 21. The result got is the Vistāra. Then from half the perimeter deduct this vistāra and the length is obtained.

K. Nilakanṭhan Āsāri in a vernacular version, called *Śilpiratnam*, observes that Guṇāṁśa should be secured as follows: Divide half the perimeter by any number beginning with 8, and ending with 32, and four parts thereof will constitute the Vistāra and the remainder the length. In this connection the following stanza from the *Manuṣyālayacandrikā* which describes the Guṇavistāra is noteworthy.

The *Manuṣyālayacandrikā*⁶²¹ states :—

“ नाहोर्ध्वे द्वादशाद्यैस्त्रिभिरपि च विभक्तेऽथवा षोडशाद्यै
विंशत्याद्यैश्च तत्त्वादिभिरपि मनुयुग्मादिभिर्दन्तसंख्यैः ।
तत्तत्तुर्यप्रहीणैरथ विततिरुद्धंशतः शेषभागै-
र्दीर्घो वस्वङ्कपङ्क्त्यादिभिरपि गुणविस्तारमाहुर्मुनीन्द्राः ।”

STANZA 80.

In this verse the author describes the process employed in the Pāda-sūtra type of Sabhā. The desired perimeter of the Gṛha (sanctum) being divided into equal halves, from one part (i.e. from half the perimeter) deduct twice the breadth of the Uttara. The remainder having been divided by any even number beginning with 4, give one part thereof to the breadth, and the remaining parts to the length. Then, add to the above measure on all the sides, twice the breadth of the Uttara already deducted. This is the process that should be employed in the Sabhā known as ‘Pādasūtra’.

STANZA 81.

In the four stanzas that follow, the author deals with the location and construction of the structure called ‘Balipīṭha’. It is a big oblation-stone (Valiabalikallu, as the Vernacular interpreters call it), built in front of the *sanctum sanctorum*. It also possesses various parts and mouldings which are met with in the construction of the *sanctum sanctorum*. This Balipīṭha is found installed within a structure, in the case of some shrines; and in the open space in some cases. From the centre of the *sanctum sanctorum*, in front and outside of it, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 5, 6, or 7

621. *Manuṣyālayacandrikā*, Ch. IV, stanza 8.

Daṇḍas away, should be installed the Balipīṭha in its own structure. According to our author the Balipīṭha should be put up in a structure, built for the purpose of housing it. In actual practice, though there are instances of permanent structures to house the Balipīṭha, there are also exceptions, and in the latter case of absence of permanent structures temporary sheds are put up at the time of certain festive occasions.

The following quotations⁶²² from the *Pāśupata* and the *Mañjarī* support the statement of Nārāyaṇa with respect to the location of the Balipīṭha:—

Thus the *Pāśupata* says:

“पञ्चषट्सप्तदण्डाग्रे कल्पयेद् बलिपीठिकाम् ॥”

and the *Mañjarī*:—

“पीठं प्रासादमध्यादथ बलिविधये पञ्चषट्सप्तदण्डमुत्तवा ॥”

STANZA 82.

This stanza lays down the dimension (height and breadth) of the Balipīṭha. The height of the Balipīṭha from its Pāduka to the top of its Padma will be equal to the height of the Pūjāpīṭha (i.e. the pedestal on which the idol stands) or one-sixth less than this height; or, it will be as much as the height of the Garbhagrha as far as its Prati (i.e. the height of the basement of the Garbhagrha), or, the height of the Prāsāda as far as its Prati (i.e., the height of the basement of the Prāsāda). Having divided the height chosen for the Balipīṭha into 10 parts, seven parts thereof will be assigned for the breadth (which is the breadth of the Uttara moulding) of the Balipīṭha. The various divisions and mouldings which enter into the composition of the Balipīṭha will be done on the pattern of those of the principal structure. In other words its different parts and mouldings will be governed by the same principles of proportion which regulate the construction of the main shrine. The dimension of the Balipīṭha set forth here is supported by the following authoritative version of the *Viṣṇusamhitā*⁶²³:—

622. *Tantrasamuccaya* with *Vimarśinī*, Part I, page 97 (T. S. S. Ed.).

623. *Viṣṇusamhitā*, Paṭala XIX, 26, 27 (T. S. S. Ed.).

“ बलिपीठसमुत्सेधो गर्भागारप्रतेः समः ।
 पूजापीठसमो वापि षड्भूतो वा प्रकीर्तितः ॥
 उत्सेधं दशधा कृत्वा सप्तांशस्तस्य विस्तरः ।”

STANZA 83.

The proportion which governs the division of the Balipīṭha into various parts or moulding- forms the subject-matter of this stanza. The height of the Balipīṭha having been divided into 27 parts, assign parts to each of the mouldings from bottom upwards as shown in the list given below:—

Pāduka.....	1
Jagatī.....	4
Kumuda.....	3
Kumudapaṭṭikā.....	1
Gala.....	10
Kambu.....	1
Nidrava.....	1
Kapota.....	3
Agrapatti.....	1
Padma.....	2
	—
Total parts.....	27
	—

This proportion is, as in the previous case, supported by the statement of the *Viṣṇusaṃhitā*. Compare the following lines from the *Viṣṇusaṃhitā*:⁶²⁴—

“ सप्तविंशतिधा कृत्वा सममेव तदुच्छ्रयम् ॥
 एकांशं पादुकं कुर्याच्चतुर्भिर्जगती पुनः ।
 त्रिभागं कुमुदं चैव तथैकांशेन पट्टिकाम् ।
 दशांशं कण्ठमित्याहुरंशाभ्यां कम्बुनिद्रवौ ॥
 त्रिभिः कपोतमित्याहुरेकांशेनाग्रपट्टिकाम् ।
 द्वांशकं पद्ममन्ते स्यादेतत् पीठस्य लक्षणम् ॥”

STANZA 84.

In this stanza the author gives another alternative for the division of the Balipīṭha into parts. Having divided the height of the Pīṭha into 32 parts, allot parts to mouldings from bottom upwards according to the direction given below:—

Pāduka.....	1½
Jagatī.....	5½
Kumuda.....	5
Kumudapaṭṭī.....	1
Antarī.....	1
Pratī.....	2
Vedī.....	4
Gala.....	4
Valabhyuttara.....	2½
Kapota.....	2½
Paṭṭikā.....	1
Padma.....	2
	—
Total parts.....	32

625. Vide the *Tantrasamuccaya* with *Vimarśinī* (T. S. S. Ed.), Part I, pp. 99-100.

(a) *Gurudevapaddhati* (T. S. S. Ed.), Uttarārdha, Paṭala XXXV, st. 44.

(b) “क्षुद्राणां ... पञ्चमं भवेत्” *Mayamata* (T. S. S. Ed.), Ch. XXXIII, Sts. 8, 9, 10.

(c) “मध्यमानां तु ... भवन्ति हि” *Gurudevapaddhati* (T. S. S. Ed.) Uttarārdha, XXXV, 46-48.

(d) “अन्तमण्डलमित्तेः ... शिरोधनं” *Ibid.*, 48-50. “तस्माद् द्वित्र्यङ्गुल ” * etc.

(e) “उत्तरान्तो ... मित्तिरिष्यते” *Maya* quoted in the *Gurudevapaddhati* (T.S.S. Ed.), Part IV, p. 351; Vide also *Mayamata* (T. S. S. Ed.), XXIII, 20, 21.

(f) Vide *Mayamata* (T. S. S. Ed.), XXIII, 22, 23; *Gurudevapaddhati* (T. S. S. Ed.), Uttarārdha, Paṭala XXXV, Sts. 50, 51

(g) *Gurudevapaddhati*, XXXV, 83⁽²⁾, 84⁽¹⁾.

(h) *Maya* is similarly quoted in the *Gurudevapaddhati* (T. S. S. Ed.), Part IV, p. 354; also vide *Mayamata* (T. S. S. Ed.), Paṭala XXV, Sts. 1, etc.

At the end of the commentary Vimarśinī on the section on Pañca-prākāras, Śaṅkara presents a collection of allied texts on the details of the topic as follows⁶²⁵:—

“ प्रासादभवनादीनां रक्षालङ्कारसिद्धये ।
वप्राणि क्रमशः कुर्यात् पञ्चत्रिद्व्येकसंख्यया ॥”(a)

अत्र मय ओह—

“ क्षुद्राणामल्पहर्म्याणां खव्यासार्धप्रमाणतः ।
अन्तर्मण्डलकं कुर्यात् स त्रिहस्तं तु तत्समम् ॥
द्वितीयं च तृतीयं च तस्मात् पञ्चकराधिकम् ।
तस्मात् स सप्तहस्तं तु तत्समं स्याच्चतुर्थकम् ॥
नवहस्तसमायुक्तं तत्समं पञ्चमं भवेत् ।(b)
मध्यमानां तु मूलार्धमन्तर्मण्डलकं भवेत् ।
ततः शरर्षिजगतीरुद्रहस्तं यथाक्रमम् ॥
वप्रान्तरालविस्तारः प्रोक्तः प्राकारपञ्चके ।
अथोत्तमानां मूलार्धं प्रथमं त्वथ चर्षिभिः ॥
नन्दरुद्रातिजगतीहस्तैर्हारा भवन्ति हि ।(c)
अन्तर्मण्डलभित्तेः स्याद् विष्कम्भः सार्धहस्तवान् ॥
तस्मात् *त्र्यङ्गुलाधिक्यात् क्रमात् साला भवन्ति हि ।
तत्तद्विष्कम्भमानात् तु त्रिगुणं वा चतुर्गुणम् ॥
प्राकारतुङ्गता ज्ञेया खोच्चाष्टांशं शिरोधनम् ।(d)
उत्तरान्तोच्छ्रिता वा स्यात् कुम्भमण्ड्यन्तकोऽपि वा ॥
मसूरकादिवर्गाढ्या खण्डहर्म्यादिमण्डिता ।
बुद्बुदार्धेन्दुशीर्षा वा ऋजुर्वा भित्तिरिष्यते ॥”(e)

इति । तथा च—(f)

“क्षुद्राल्पभित्तिविस्तारा हस्तादारभ्य पूर्ववत् ।
क्रमात् त्रिव्यङ्गुलाधिक्याद् वर्धयेत् सार्धहस्ततः ॥
सोत्तरा वाजनच्छत्रशीर्षवत्यश्च भित्तयः ।”

इत्यादि ।

“गोपुराणामथो लक्ष्म यथावदपि कल्प्यते ।
प्रतिवप्रं तु कर्तव्यं द्वारे द्वारे तु गोपुरम् ॥”(g)

अत्र (h)मयश्च—

“क्षुद्राल्पमध्यमुख्यानां वप्राणां स्वप्रमाणतः ।
मूलप्रासादविस्तारे सप्ताष्टनवभागिके ॥
दशैकादशभागे च तत्तदेकांशहानितः ॥
द्वारशोभादिविस्तारं गोपुरान्तं भवेत् क्रमात् ।
क्षुद्राल्पकानां धाम्नां स्यान्मानमेवं यथोदितम् ॥
मध्यानां मूलधाम्नस्तु व्यासे वेदेषुभागिके ।
षट्सप्ताष्टांशके वा स्याद् भागोनं गोपुरं पृथक् ॥
त्रिभागैकांशमर्धं च द्विभागं स्यात् त्रिभागिके ।
चतुर्भागे त्रिभागं च पञ्चांशे चतुरंशकम् ॥
द्वारशोभादिविस्तारं श्रेष्ठानां गोपुरं मतम् ।
तुङ्गं तु गोपुराणां स्यात् सप्तांशे रुद्रभागिकम् ॥
चतुरंशे षडंशोच्चं पञ्चांशे सप्तभागिकम् ।
सप्तांशं तु चतुर्भागे नवभागे तु पञ्चके ॥
द्विगुणं वा यथासंख्यं द्वारायतनतुङ्गता ॥”

इत्यादि ॥

BHĀVANĀVIVEKA

BY

MAṆḌANAMIŚRA

WITH

VIṢAMAGRANTHIBHEDIKĀ

BY

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Edited with Introduction

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‘सत्ताया एव साध्यरूपेण धातुनोपादानात् साध्यताप्रतीतिः, न पुनः प्रत्ययेन भावनाया अभिधानात् । सत्ता भाव इति च सत्ताया धातुनैव सिद्धरूपेण उपादानात् सिद्धरूपप्रतीतिः, न पुनः प्रत्ययेन भावनाया अनभिधानात् । व्यापारसंस्पर्शकृतस्य साध्यत्वस्य पच्यादौ निश्चयात् । इहैव तर्हि व्यभिचारः ‘यजते यजमानः’,

प्रस्तुतं व्याख्यायते—अस्त्यादावपि शब्दाद्भावना प्रतीयते इत्युक्तम् । तत्र हेत्वपेक्षायामाह—अन्यथा अस्ति भावस्सत्तेत्यभेदादिति ॥ यद्यस्तीत्यादौ शब्दाद्भावना नावगम्येत, तदा अस्ति भावस्सत्तेत्यत्र सर्वत्र बुद्धिभेदाभावप्रसङ्गः । यथा भावशब्देन च सिद्धरूपो धात्वर्थः प्रतीयते एवमस्तीत्यनेनापि प्रतीयेत । नच तथा प्रतीयते, किन्तु साध्यस्वरूपतया । तच्चास्तीत्यत्र धात्वर्थातिरिक्तव्यापाराभिधानाभावे विरुध्यते ।

तत्र शङ्कते—सत्ताया एव साध्यरूपेण धातुनोपादानात्साध्यताप्रतीतिः, न पुनः प्रत्ययेन भावनाया अभिधानात् । सत्ता भाव इति च सत्ताया धातुनैव सिद्धरूपेणोपादानात् सिद्धरूपप्रतीतिः, न पुनः प्रत्ययेन भावनाया अनभिधानात् इति । ३अस्योत्तरमाह—व्यापारसंस्पर्शकृतस्य साध्यत्वस्य पच्यादौ निश्चयादिति ॥ अयमर्थः—पच्यादौ व्यापारान्तर-सम्पर्शकृतं धात्वर्थस्य साध्यत्वमवधारितम्—कः पाकः पचतीत्यादौ । एवञ्च सति अस्त्यादावपि धात्वर्थसाध्यत्वं व्यापारान्तरसंस्पर्शकृतमेवेति निश्चोयते । पुनरपि प्रत्ययस्य भावना-व्यभिचारं विषयान्तरे चोदयति—इहैव तर्हि व्यभिचारः ‘यजते यजमानः’ ‘पच्यन्ते स्वयमेव तण्डुलाः’ इति ॥ अयमर्थः—यदि कर्मकर्तृविषयस्य पचतेर्धीतोः यजमानकर्तृविष-

१. सत्ताया एव व्यापारात्मना प्रतीतिः भेद इति चेत्—न, व्यवहारान्तरसंस्पर्शकृतस्य—
क, ख, ग, घ, ङ.

२. पचत्यादिषु—ख; पचादौ—ङ.

३. इतः पूर्वं ‘सत्ता भाव इति च सत्ताया धा-
तुनैव सिद्धरूपेणोपादानात्’ इत्यधिकं
वर्तते—च मातृकायाम् ।

४. संस्पर्शकृतं—ङ.

‘पच्यन्ते स्वयमेव तण्डुलाः’ इति । २ व्यापारान्तरोपगमे वा धातोर-
व्यभिचारः । न, अभ्युपगमात्^३ लेनाभिधानस्य, तन्निबन्धनत्वात्त-

यस्य च यजेः भावनां प्रति व्यभिचार उच्यते त्वया, तर्हि इहापि(हैव) मयैव(यापि) प्रत्य-
यस्य भावनां प्रति व्यभिचार उच्यते इति । अथेह प्रत्ययव्यभिचारदोषपरिजिहोषया विक्रित्ति-
व्यतिरिक्तस्तण्डुलसमवायी, द्रव्यत्यागसङ्कल्पातिरिक्तश्च यजमानसमवायी कर्तृव्यापारोऽभ्युप-
गम्येत, तदा धातोर्व्यभिचाराभावात्कर्तृव्यापारस्य तदभिधेयत्वानभ्युपगमो निर्निबन्धनस्यादित्ये-
तदाह—व्यापारान्तरोपगमे वा धातोरव्यभिचार इति । अस्योत्तरमाह—न, अभ्युपगमाल्ले-
नाभिधानस्य ४तन्निबन्धनत्वात्तस्यान्यथा(पि) सिद्धेः पाकादिषु व्यभिचारात् इति ॥ यदु-
क्तम्—५व्यापारान्तराभ्युपगमे धातोर्व्यभिचाराभावात् तस्य तदभिधेयत्वं प्राप्नोतीति, तन्नि-
षेधाय नेत्युक्तम् । तत्र हेतुक्तिः—अभ्युपगमाल्लेन [लकारेणाभ्युपगमात्] अभिधानस्येति ।
विक्रित्यादिव्यतिरिक्तस्य व्यापारस्य लेन लकारेणाभिधानमभ्युपगम्यते, न धातुना । ६अतो
व्यापाराभ्युपगमेऽपि न तस्य धात्वभिधेयत्वं प्रसज्यते । कथं पुनः कर्तृव्यापारस्य लकारेणैवा-
भिधानमभ्युपगम्यते ? न धातुना ? :अन्वयव्यतिरेकाविशेषेऽपीत्याशङ्क्योक्तम्—तन्निबन्ध-
नत्वात् तस्यान्यथापि सिद्धेरिति ॥ तन्निबन्धनत्वात्—लकारनिबन्धनत्वात् ; तस्य—कर्तृ-
व्यापारस्य ; अन्यथापि—धातोः तदभिधानसामर्थ्यकल्पनेन७ विनापि ; सिद्धेः—उपपत्ते-
रित्यर्थः ॥

ननु विपर्ययेणापि ८अन्यथासिद्धौ सम्भवन्त्यां कोऽत्र विनिगमनायां
हेतुः ? कर्तृव्यापारप्रत्ययस्य धात्वन्वयव्यतिरेकयोरन्यथासिद्धिः, न पुनः प्रत्यया-

१. पच्यते स्वयमेवेति—क, स्व.

२. व्यापारोपगमे—ङ.

३. तिङ्—ग, घ ; अभ्युपगमात् न व्यभि-
चारः—ङ.

४. निर्निबन्धनत्वात्—च.

५. ‘व्यापारान्तराभ्युपगमे’ इत्यारभ्य ‘अभ्यु-

पगमात्’ इत्यन्तो ग्रन्थः नास्ति—छ
मातृकायाम् ।

६. ‘अतः’ इत्यारभ्य ‘अभ्युपगम्यते’ इत्य-
न्तो ग्रन्थः नास्ति—छ मातृकायाम् ।

७. संकल्पनेन—छ.

८. अन्यथासिद्धाः संभवन्ति, एकोऽत्र—छ.

स्या^१न्यथा(पि)सिद्धेः पाकादिषु व्यभिचारात्, ^२भेदेनानिदर्शनाद-
प्रतीतेः,^३ ^४इतरत्र तैर्निष्कर्षणात्, ^५अतुल्यार्थत्वात्तन्निष्कर्षः, सा-

न्वयव्यतिरेकयोरि(ती)त्याशङ्क्योक्तम्—पाकादिषु व्यभिचारादिति ॥ ‘पाकः’, ‘यागः’
इत्यादिषु धातोः कर्तृव्यापाराभिधानं प्रति व्यभिचारात् आख्यातपदेऽपि घञाद्यन्तप्रयोग-
प्रसिद्धविक्रित्यादिमात्राभिधानेन चरितार्थत्वाच्च कर्तृव्यापारवाचित्वं ग्रहीतुं शक्यत इत्यर्थः ।
कथं पुनः पाकादिषु धातोः विक्रित्यादिव्यतिरिक्तकरोत्यर्थाभिधानं प्रति व्यभिचार इत्या-
शङ्क्याह—भेदेनानिदर्शनादप्रतीतिरिति ॥ पाकादिषु विक्रित्यादि[षु]व्यतिरिक्तस्य कर्तृ-
व्यापारस्य भेदेन निदर्शनाभावात् अप्रतीतिरर्थभेदस्य । एतदुक्तं भवति—अर्थभेदप्रतीति-
निमित्तकस्य भेदनिदर्शनस्य ‘पाकः क्रिया’ इत्येवंरूपस्य नियमेनादर्शनादर्थभेदप्रतीत्य-
भावोऽवगम्यते । ततश्चार्थभेदाभावोऽवगम्यते । अतः पाकादिषु धातोः करोत्यर्थाभिधानं प्रति
व्यभिचार इति ॥

नन्वर्थस्य भेदेनानिदर्शनाद्धातोर्र्थभेदो मा भूत् । किन्त्वेक एवार्थोऽस्तु धातोः । स च
विक्रित्यादिविलक्षणः कर्तृव्यापार एव कस्मान्नेष्यते इत्याशङ्क्याह—इतरत्र तैर्निष्कर्षणात्
अतुल्यार्थत्वात्तन्निष्कर्ष इति ॥ अयमर्थः—इतरत्र तिङन्ते पदे तैः पाकादिभिर्धात्वर्थैः
प्रत्ययाभिधेयस्य कर्तृव्यापारस्य निष्कर्षणं पृथक्करणं दृश्यते ‘पाकं करोति’ इति । अत्र
हि पाकमिति द्वितीयान्तेन पदेन धात्वर्थः कर्मतया निर्दिश्यते । करोतीत्यनेन च प्रत्ययार्थः
क्रियात्वेन । स चायं निष्कर्षः धात्वर्थात्कर्तृव्यापारस्य प्रत्ययाभिधेयतया अतुल्यार्थत्वादेव
धातुप्रत्यययोरुपपद्यते । एतदुक्तं भवति—(यदि) व्यापारादाख्यातार्थादर्धान्तरे विक्रित्यादि-

१. तस्यासिद्धे—ङ.

२. भेदेनानिर्देशात्—क; भेदानां निर्देशात्—ख.

३. अतः प्रतीतेः—ङ.

४. इतरत्र भेदेन निष्कर्षणात्—क, ख ;

इतरत्राख्याते भेदेन निष्कर्षणात्—ग,घ,ङ.

५. अन्यथा तुल्यत्वादनिष्कर्षणं स्यात्—क,
ख, ग, घ, ङ.

६. भवति—यत्कर्तृव्यापारात्—ङ.

**मान्यविशेषयोः^१ साध्यसाधनभावायोगात्^२, सामान्यस्यासाध्य-
त्वात्, ^३अनभिधेयाख्यानापत्तेः ।**

लक्षणे धातुर्न वर्तेत, तदा तदर्थ(र्थात्)भेदेन कर्तृव्यापारस्य^४ करोत्यर्थस्य निदर्शनं नोपपद्येत ।
तस्मान्न कर्तृव्यापारो धात्वभिधेय इति ॥

ननु पाकादिधात्वर्थविशेषः, तत्सामान्यं करोत्यर्थः, इति सामान्यविशेषभावनिवन्धना-
द्भेदान्निष्कर्ष उपपद्यत इत्याशङ्क्याह—सामान्यविशेषयोः साध्यसाधनभावायोगादिति ॥
सामान्यविशेषयोः साध्यसाधनभावो नोपपद्यते, अन्यत्रादर्शनात् । तत्रैव दूषणान्तरमाह—
सामान्यस्यासाध्यत्वादिति ॥ अयमर्थः—साध्यस्वभावो हि करोत्यर्थो गम्यते, न सिद्धस्वभावः ।
साधनरूपो हि सः । न च तथारूपत्वं सिद्धत्वेऽवकल्पते, घटादेः तदभावात्, तच्च[1]
साध्यस्वभावत्वं तस्य सामान्यमात्रत्वे नोपपद्यते । गुणविशेषत्वाद्वि सिद्धरूपो धात्वर्थ
उपेयते । कथं तत्समवायि सामान्यं साध्यस्वभावं स्यात् ? अतः क्रियाकारकयोरर्थयोः
पचतीत्यत्र निदर्श्यमानत्वान्न धात्वर्थविशेषसामान्ययोरयं निष्कर्षः—‘पाकं करोति’ इति
(इति) ॥ पुनरपि तत्रैव दूषणान्तरमाह—अनभिधेयाख्यानापत्तेरिति ॥ अयमर्थः—यदि
धात्वर्थसामान्यविशेषयोः एष निष्कर्षः स्यात्, तदानभिधेयस्याख्यानापत्तेरिति । कथम् ?
पचतीत्यस्मिन्पदे केनांशेन धात्वर्थसामान्यमभिधीयत इति वाच्यम् । न तावत्प्रकृत्यंशेन
पचिना, तस्य विशेषाभिधानात् । नापि प्रत्ययांशेन, तस्य धात्वर्थसामान्यवाचित्वानभ्युप-
गमात् । अस्मत्पक्षे तु पाकभावनयोः प्रकृतिप्रत्ययाभिधेयत्वात् तयोरेव च पाकं करातीति
निदर्श्यमानत्वान्नानभिधेयाख्यानापत्तिः । तस्माद्धात्वर्थातिरिक्ता भावना प्रत्ययाभिधेया अस्तीति
निश्चीयते ॥

१. विशेषयोश्च—ग, घ, ङ.

२. साध्यस्य साधनत्वायोगात्—ङ.

३. अनभिधेयाख्यानापत्ताच्च—क ;

ख्यानापत्तेश्च—ख ; ...ख्यानानुपपत्तेश्च-

ग, घ ; अनभिधानाख्यानानुपपत्तेश्च—ङ.

४. व्यापारभेदस्य—च.

भवतु धात्वर्थव्यतिरिक्ता भावना प्रत्ययाभिधेया । धात्वर्थस्तु पचत्यादौ विक्लित्यादिलक्षण एवेत्येतन्न मृष्यते । स त्वधिश्रयणादिलक्षणः कर्तृव्यापार एव । यस्त्वन्योऽधिश्रयणादेः परिस्पन्दरूपाद्यापारादान्तरः प्रयत्नाख्यः कर्तृव्यापारः स प्रत्ययार्थो भवतु । एवमप्युपपद्यते धातुप्रत्यययोः अर्थभेदनिदर्शनम् । क्रियावचनत्वं च धातूनामभियुक्तैरभ्युपगतमेवं सत्युपपन्नं स्यात् । उक्तं हि—‘क्रिया धात्वर्थमात्रं स्यात्’ इत्यादि, ‘क्रियावाचिनो धातवः’ इति च । विक्लित्यादिलक्षणगुणविशेषधात्वर्थपक्षे तु तदनुपपन्नं स्यात् । उच्यते—उक्तोत्तरमेतत् । उक्तं हि—कर्मकर्तृविषये(य)पचेरधिश्रयणादिलक्षणकर्तृव्यापाराभिधानं प्रति व्यभिचार इति ॥

ननु तत्र व्यभिचारः प्रत्ययस्याप्यविशिष्टः, व्यापाराभ्युपगमे धातोरव्यभिचार इत्यप्युक्तम् । सत्यमुक्तम् ; अस्योत्तरमप्युक्तम्—पाकादिषु धातोः कर्तृव्यापाराभिधानं प्रति व्यभिचारात् लकारेणैव तस्याभिधानमिति ॥

ननु घञन्ते पाकादौ अर्थभेदनिदर्शनाभावाद्यभिचारः तिङन्ते च तद्भावादव्यभिचारात् प्रत्ययस्ये(स्यैव) करोत्यर्थात्मिका भावनेत्युक्तम् । सा च करोत्यर्थात्मिका भावना प्रयत्न एव, नाधिश्रयणादिग्रा(र्वा)ह्यो १ व्यापार इति इदानीं वदामः । तत्र कथमुक्तोत्तरत्वमिति । उच्यते—यदा प्रयत्न एव भावना प्रत्ययार्थः, तदैतदेवं स्यात् ; यदा पुनः कर्तृव्यापारमात्रं सिद्धकर्तृव्यापारमात्रं वा चेतनाचेतनसाधारणं भावना प्रत्ययार्थः स्यात्, तदैतन्नोपपद्यते । नचात्मकर्तृकः प्रयत्न एव भावनेत्येतदप्यवोचाम—‘आत्मकर्तृकमेव’ इत्यादौ । ननु प्रयत्नपरिस्पन्दयोरुभयोरपि भावनात्वाभ्युपगमेऽपि चेतने प्रयुज्यमानस्याख्यातस्य प्रयत्न एवार्थः, अचेतने प्रयुज्यमानस्य परिस्पन्दः । ततश्च पचतीत्यत्र देवदत्तस्य(स्थ)प्रयत्नाख्य-

१. व्यापार इदानीमिति वदामः—च.

२. ‘यदा’ इत्यारम्भ ‘स्यात्’ इत्यन्तो ग्रन्थः नास्ति—च मातृकायाम् ।

व्यापारवचनत्वात्प्रत्ययस्य अधिश्रयणादिः धात्वर्थ एव कस्मान्नेप्यते ? । उच्यते—अचेतने प्रयुज्यमानयोः धातुप्रत्यययोः यावर्थौ समधिगतौ—कर्तृव्यापारः, तत्फलभूतो गुणविशेषश्च संयोगविभागलक्षणः, तावेव तयोश्चेतनविषययोरप्यर्थौ ग्राह्यौ, विरोधाभावात् । अतः पचत्यादौ न प्रयत्न एव केवलः प्रत्ययार्थः, नापि परिस्पन्द एव केवलः, किन्तु कर्तृव्यापारमात्रम् । जानातीत्यादौ तु आत्मकर्तृक एव व्यापारः । अग्निर्ज्वलतीत्यादौ तु परिस्पन्द एव । धात्वर्थस्तु सर्वत्र व्यापारफलभूतो गुणविशेष एवेति मतमाचार्यस्य इति । स्पष्टीकरिष्यति चैतदुपरिष्ठात्स्वयमेव ।

यच्चोक्तमभियुक्तैः क्रियावचनत्वं धातोरङ्गोक्तमिति, तत्रोच्यते—परपरिकल्पित(प्र)-क्रियानुसारेणापि कदाचिदन्यपरत्वादनभिप्रेतार्था अपि गिरः प्रवर्तमाना दृश्यन्ते विचक्षणा-नामित्यविरोध इति ॥

अथवा स्वतो गुणविशेषस्यापि धात्वर्थस्य प्रत्ययाभिधेयक्रियोपरक्तत्वेन क्रियात्वमस्तीति क्रियात्वोक्तिः सङ्गच्छते । यथा वक्ष्यत्याचार्यः ‘परोपाधि’ इत्यादि । नचैवं मन्तव्यं देवदत्तादौ कर्तरि समवेतो यो^१ व्यापारः, स पचतीत्यत्र प्रत्ययार्थः ; यत्तु(स्तु) काष्ठादिकार-कान्तरसमवेतो ज्वलनादिव्यापारः, स धातोरर्थ इति । नानाजातीनां ज्वलनादिव्यापाराणा-मेकेन पचिधातुना अभिधानानुपपत्तेः । विक्लित्याद्येकफलावच्छेदेन तेषामेकत्वसम्भवात् एकेन धानुना अभिधानमुपपद्यत इति चेत्—एवं तर्हि विक्लित्यादेः फलस्यैव पचिवाच्यत्व-मिष्यताम्, लाघवात् । कथन्तर्हि पचतीत्यत्र ज्वलनादीनां प्रतीतिः ? प्रत्ययाभिधेयकर्तृ-व्यापारान्तर्भावात् । कर्तृव्यापारे हि फलपर्यन्ते पूर्वापरीभूतात्मनि कारकान्तरव्यापाराः अन्तर्भावं प्रतिपद्यमानाः प्रत्ययनिबन्धनप्रत्ययतां नातिवर्तन्ते इति । अतः सुष्ठूक्तं—
‘विक्लित्तिमात्रं सङ्कल्पविशेषमात्रं चाचक्षाते पचियजी’ इति ॥

तदेव तस्य करणं २न वै कर्म च कल्पते ।

भावनां सङ्गिरन्तेऽतो धात्वर्थव्यतिरेकिणीम् ॥ ३५ ॥

‘यजेताश्वमेधेन’, ‘ईजे बहुभिर्यज्ञैः’, ‘स्वं यज्ञं यजति’ इत्ये-
कत्वे क्रियाकारकभावानुपपत्तिः^५ । सामान्यविशेषभेदोऽपि न

इतोऽपि धात्वर्थातिरिक्ता भावना अभ्युपगन्तव्या इत्याह—किञ्च—

तदेव तस्य करणं न वै कर्म च कल्पते ।

भावनां सङ्गिरन्तेऽतो धात्वर्थव्यतिरेकिणीम् ॥ (इति) ॥

अयमर्थः—एकस्यैव क्रियात्वं कारकत्वं च नोपपद्यते, क्रियाकारकयोर्भेदप्रसिद्धेः^६।
दृश्यते च क्रियाकारकभावो धात्वर्थप्रत्ययार्थयोः ‘यजेताश्वमेधेन’ इत्यादौ । अतो धात्वर्था-
त्कारकाद्यतिरिक्तां प्रत्ययाभिधेयां क्रियां प्रतिजानते । ‘प्राज्ञाः’ इति शेषः । अस्यार्थस्य
स्पष्टीकरणायाह—‘यजेताश्वमेधेन’, ‘ईजे बहुभिर्यज्ञैः’, ‘स्वं यज्ञं यजति’ इत्येकत्वे
क्रियाकारकभावानुपपत्तिरिति ॥ ‘यजेताश्वमेधेन’ इत्यत्र तावदश्वमेधनामधेयस्य धात्वर्थस्य
करणत्वं प्रतीयते, ‘अश्वमेधेन’ इति तृतीयाश्रवणात् । ततस्तत्र तद्यतिरिक्ता क्रिया अभ्यु-
पेया, यत्रास्य करणत्वम् । ‘ईजे च बहुभिर्यज्ञैः’ इत्यत्रापि ‘ईजे’ इत्याख्यातार्थं प्रति
यज्ञानां करणत्वं गम्यते । तत्र यदि ‘ईजे’ इति पदे यज्ञव्यतिरिक्ता क्रिया प्रत्ययाभिधेया
नाभ्युपगम्येत, यज्ञानां करणत्वं श्रूयमाणं बाध्येत । तथा ‘स्वं यज्ञं यजति’ इति यज्ञ-

१. ‘किञ्च-तदेव’ इत्यारभ्य ‘व्यतिरेकिणीम्’
इत्यन्तो ग्रन्थः नास्ति-घ मातृकायाम् ।

२. नचैकमव—ग, घ, ङ.

३. इष्टवान् बहुभिः—ग, घ, ङ.

४. यजतीत्येकस्यैव—क, ख; यजतीति चैक-
त्वे—ग, घ, ङ.

५. भावानुपपत्तेः—क.

६. भेदः प्रसिद्धः—छ.

७. ईजे च—छ.

८. तदा—च.

क्रियाकारकसम्बन्धमुपपादयितुं^१ क्षमः, सामान्यस्यासाध्यत्वेना-
क्रियात्वात्^२, विशेषणविशेष्यसम्बन्धे तु कारकविभक्तिविरोधः^३।
नाप्येकदेशयोः क्रियाकारकभावः, उभयत्रापि^४ समुदायस्य शब्दो-

मिति द्वितीयानिर्देशाद्यज्ञस्य कर्मत्वं कारकत्वं (कर्मकारकत्वं) गम्यते यजत्यर्थं प्रति । अतो
यजतीत्यसिन्पदे प्रकृत्यर्थात्कर्मभूताद्यागाद्विन्ना क्रिया प्रत्ययाभिधेया इत्यभिप्रायः ।

नच सामान्य(विशेष)भावनिवन्धनेन भेदेन क्रियाकारकभावः उपपादयितुं शक्यत
इत्याह—सामान्यविशेषभेदोऽपि न क्रियाकारकसम्बन्धमुपपादयितुं क्षमः(मः), ‘सामान्यस्या-
साध्यत्वेन (अ)क्रियात्वादिति ॥ योऽपि मन्यते धात्वर्थसामान्यं प्रत्ययार्थः । तद्विशेषः
प्रकृत्यर्थः । अतस्तयोः क्रियानपि भेदो विद्यत इति, तस्यापि नैवंविधो भेदः क्रियाकारक-
सम्बन्धमुपपादयितुं क्षमः, सामान्यस्य क्रियात्वाभावात्, तदभावश्च तस्य साध्यत्वाभावात्,
साध्यत्वाभावश्च सामान्यस्य व्यक्तीनां साध्यत्वाभावात् । व्यक्तीनां साध्यत्वेन क्रियात्वाभ्युप-
गमे कारकत्वानुपपत्तिप्रसङ्गात् । अतो न सामान्यविशेषभेदेनायं क्रियाकारकभावस्सम्भवति ॥

ननु मा भूत्क्रियाकारकसम्बन्धः सामान्यविशेषयोः, विशेषणविशेष्यसम्बन्धस्तु
सम्भवति इत्याशङ्क्याह—विशेषणविशेष्यसम्बन्धे तु कारकविभक्तिविरोध इति ॥ अश्व-
मेधेन, बहुभिर्यज्ञैः, स्वं यज्ञमिति करणकारकविभक्तेः कर्मकारकविभक्तेश्च विशेषणविशेष्य-
सम्बन्धाभ्युपगमे विरोधः स्यात् । अथ मतं—क्रियासमुदायो यागः, तस्य एकश्चिदेकदेशः
कारकमश्वमेधादिशब्दैरभिधीयते । अतः क्रियाकारको(कभावो)पपत्तिरिति । एतदप्ययुक्त-
मित्याह—नाप्येकदेशयोः क्रियाकारकभावः, उभयत्रापि समुदायस्य शब्दोपादानत्वादिति ॥

१. उपकल्पयितुं—ख, ग, घ, ङ.

२. अक्रियात्मकत्वात्—ग, घ, ङ.

३. विभक्तिविरोधात्—ग, घ, ङ.

४. ‘अपि’ नास्ति—ग, घ, ङ मातृकासु.

५. ‘सामान्यस्यासाध्यत्वेन’ इत्यारभ्य ‘क्षमः’
इत्यन्तो ग्रन्थः नास्ति—छ मातृकायाम् ।

६. कश्चिदेशः—छ.

पादानत्वात्^१। नापि ^२धातूपादानायामप्यन्तर्भूतसामान्यकर्मकर-
णिकायां^३ विशेषकर्मकरणसम्बन्धः—यथा ‘मुण्डयति माणवकम्’,
‘मालिन्योपश्लोकयति’^४ इति ; ‘स्वं यज्ञम्’, ‘बहुभिर्यज्ञैः’^५ इत्यपि

उभयत्र धातुपददे^६ च समुदायस्यैव शब्दाभिधेयत्वात् , अन्यथा धात्वर्थोपपदयोः नाम-
नामिभावासम्भवात् , एकदेशयोः क्रियाकारकभावः अनुपपन्न इत्यर्थः ।

यदपि मतं ‘यजेताश्चमेवेन’ इत्यत्र यजिनैव यागसामान्यकरणिका भावना अभि-
धीयते । करणविशेषस्त्वश्चमेधशब्देन समर्प्यते—यथा ‘मालिन्योपश्लोकयति’ इति । अत्रोप-
श्लोकयतिना णिजन्तेन श्लोकसामान्यकरणिकोपस्तुतिरभिधीयते । तत्र ह्युपश्लोकयतीति—
श्लोकैरुपस्तौतीत्यर्थः प्रतीयते । तत्र मालिनीशब्देन ७श्लोकविशेषवाचिना करणविशेषसमर्प्यते ।
‘तद्वत् ‘स्वं यज्ञं यजति’ इत्यत्रापि यजिरन्तर्भूतयागसामान्यकर्मिकां भावनां उपादत्ते ।
यज्ञमित्यनेन च कर्मविशेषः समर्प्यते । यथा ‘मुण्डयति माणवकम्’ इत्यत्र मुण्डयतिना
णिजन्तेन मुण्डसामान्यकर्मिका भावना प्रतीयते—मुण्डं करोतीति, माणवकशब्देन च
मुण्डविशेषः प्रत्याग्यते । एवमत्रापि । अतो न प्रत्ययाभिधेया भावनेति । एतन्निराकरोति—
नापि धातूपादानायामप्यन्तर्भूतसामान्यकर्मकरणिकायां विशेषकर्मकरणसम्बन्धः—यथा
‘मुण्डयति माणवकम्’, ‘मालिन्योपश्लोकयति’ इति ॥ अत्रान्तर्भावो^७गुणभावोऽभिप्रेतः
सामान्यस्य कर्मकरणरूपस्य भावनां प्रति । निराकार्यं वस्तूपदर्श्यं निराकरणप्रतिज्ञा कृता ।
इदानीन्तत्र हेतुमाह—स्वं यज्ञम्, बहुभिर्यज्ञैरित्यपि धातुना भावनोपादानात् विशेषभावनाभ्यु-

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| १. समुदायस्याधिकत्वेनोपादानात् — ख ; | ५. यज्ञैर्यजन्तीत्यपि—क, ख ; यज्ञैरित्यत्रा-
पि—ग, घ. |
| समुदायस्य शब्दोपात्तत्वात्—ग, घ. | |
| २. धातूपादायां भावनायामन्तर्भूत—ग, घ. | ६. उपदेशे—च. |
| ३. करणिकायां यथा—मुण्डयति माणवकम्—ख. | ७. श्लोकसामान्य—छ. |
| ४. उपश्लोकयति मालिन्येति—ख, ग, घ, छ. | ८. यद्वत्—छ. |
| | ९. गुणभावः—छ. |

धातुना भावनोपादानात्^१ विशेषभावनाभ्युपगमात् विशेषणविशेष्यसम्बन्धप्रसङ्गात् । अनुपादाने^२ च सिद्धव्यभिचारोऽसौ न तिङन्तेऽपि तामुपादातुमर्हति । एतेन^३ ‘ओदनपाकं पचति’ इत्या-

पगमाद्विशेषणविशेष्यसम्बन्धप्रसङ्गादिति ॥ अयमर्थः—‘स्वं यज्ञम्’, ‘बहुभिर्यज्ञैः’ इत्यत्र यज्ञशब्दान्तर्गतेनापि यजिना धातुना यागसामान्यान्विताया भावनाया भवत्पक्ष उपादानात् ‘स्वम्’ ‘बहुभिः’ इत्यादिभिरभिसम्बन्धेन तस्या एव भावनाविशेषरूपाभ्युपगमात् ‘यजति’ ‘ईजे’ इत्याख्यातपदप्रकृत्युपात्ताया ‘यज्ञैः यज्ञ’मिति यज्ञशब्दोपात्तायाश्च भावनाया विशेष्यविशेषणभावप्रसङ्गः । आख्यातप्रकृत्युपात्ताया यागसामान्यान्विततया^४ सामान्यरूपत्वात् यज्ञशब्दोपात्तायाश्च ‘स्वं बहुभिः’ इत्यादिपदान्तरैः यागविशेषलाभात् विशेषरूपत्वात् सामान्यविशेषयोश्च^५ विशेष्यविशेषणभावस्य सम्भवात् असम्भवाच्च क्रियाकारकभावस्य क्रियाकारकसम्बन्धप्रतीतिरुपरुध्येतेत्यभिप्रायः ॥

अथैतद्दोषपरिजिहीर्षया यज्ञशब्दे धातुः भावनां नोपाददोत, तर्हि तत्र प्रसिद्धभावनाभिधानव्यभिचारः ‘यजति’ ‘ईजे’ इति तिङन्तेऽपि तां नोपादातुमर्हति इत्येतदाह—अनुपादाने च सिद्धव्यभिचारोऽसौ न तिङन्तेऽपि तामुपादातुमर्हतीति ॥ वैदिकोदाहरणप्रदर्शितं न्यायं लौकिकोदाहरणेऽतिदिशति—एतेन ‘ओदनपाकं पचति’ इत्यादयो व्याख्याता इति ॥ योऽयं ‘स्वं यज्ञं यजति’ इत्यादावुक्तो न्यायः प्रकृत्यर्थातिरिक्तप्रत्ययाभिधेयभूतभावनावगमे, एतेनोपा(नौद)नपाकादयो व्याख्याता वेदितव्याः । तत्रापि हि पचतिशब्दार्थस्य पाकशब्दार्थस्य चैकत्वे क्रियाकारकभावानुपपत्तिः । सामान्यविशेषभेदाभ्युप-

१. विशेषभावनाभ्युपगमात्—नास्ति—क, ख

मातृकयोः ।

२. वा—ख, ग, घ, ङ.

३. तिङन्तेष्वपि—क.

४. ओदनः पाकं—क.

५. सामान्यान्वितायाः—छ.

६. विशेषणविशेष्य—छ.

७. नोपपादयितुं—च.

दयो^१ व्याख्याताः । ^३तस्माद्यत्रैष कारकभावो ^४नामपदोपादान-
धात्वर्थस्य ^५विभक्तिभिर्व्यज्यते, स तदतिरेकी तिङन्तेषु प्रत्ययो-

गमेऽपि क्रियाकारकसम्बन्धानुपपत्तिः । विशेषणविशेष्यसम्बन्धे तु कारकविभक्तिविरोधः ।
नापि क्रियासमुदायात्मकस्य पच्यर्थस्यैकदेशः क्रिया एकदेशान्तरं कारकमिति सम्भवति,
तिङन्ते घञन्ते चोभयत्रापि समुदायस्यैव धातूपादानत्वात् । नाप्यन्तर्भूतपाकसामान्यान्विताया
भावनायास्तिङन्तपदे धातूपाताया ओदनपाकमित्यनेन पाकविशेषा(पेणा)न्वयोऽवगम्यते इति
वाच्यम् । पाकशब्देऽपि धातुना पाकसामान्यान्विताया भावनाया अभिधानात्, तस्याश्चौ-
दनादिपदान्तरसन्निधानादिलब्धविशेषायाः पचतीत्यत्र धात्वभिहितपाकसामान्यान्वितभावनया
सह विशेषणविशेष्यसम्बन्धप्रसङ्गात्क्रियाकारकभावानुपपत्तिः(तेः) । एतद्दोषपरिहाराय पाक-
शब्दे धातुना भावनाया अनुपादाने सिद्धव्यभिचारोऽसौ धातुः तिङन्तेऽपि न भावनामभि-
धातुमर्हतीति ॥ एवं श्लोकपूर्वार्धं व्याख्यायाधुनोत्तरार्धं पूर्वार्धोपपादितहेतुप्रतिपाद्यार्थनिगमन-
रूपं व्याचष्टे—तस्माद्यत्रैष कारकभावो ^६नामपदोपादानधात्वर्थस्य विभक्तिभिर्व्यज्यते, स
तदतिरेकी तिङन्तेषु प्रत्ययोपादानः करोत्यर्थः प्रतिज्ञायते वृद्धैरिति ॥ यस्मादेकत्वे क्रिया-
कारकभावानुपपत्तिः तस्माद्यत्राश्वमेधादिनामपदोपात्तस्य धात्वर्थस्य तृतीयादिविभक्तिभिः कारक
भावो व्यज्यते, स तस्माद्धात्वर्थभावादतिरिक्तः करोत्यर्थः प्रत्ययाभिधेयः प्रतिज्ञायते वृद्धैर्मी-
मांसकैः ॥

कथन्तर्हि ‘इष्टवान्यज्ञैः’ इत्यादौ यज्ञादीनां करणादिभावः ? नहि तत्र भावना-
वचनत्वाभिमत आख्यातप्रत्ययोऽस्ति ; इष्टवानित्यादेः कृदन्तत्वात्, तस्य च कर्तृकारकवच-
नत्वात्, कर्तृकारकेण च करणादिकारकान्तराणामन्तरेण क्रियान्वयमन्वयायोगात् । अतः

१. पचतीत्यादयोऽपि—ग, घ, ङ.

२. व्याख्यातम्—क.

३. यस्मात्—ङ.

४. नामपदोपादानस्य धात्वर्थस्य—क, ख ;

नामपदोपादानधात्वर्थस्य—ग, घ; नाम-

पदोपात्तस्य धात्वर्थस्य—ङ.

५. विभक्तिभिरभि—क, ख.

६. पदोपादोत्तरस्य—च.

पादानः करोत्यर्थः प्रतिज्ञायते वृद्धैः । 'इष्टवान्यज्ञैः' इत्यपि^१ द्रव्य-
प्रधान^२ भावनाधिगमन्निष्ठादिषु^३ तथा प्रतीतेरविरोधः ॥

यत्तुक्तं भावनाविषयत्वप्रतीतेः करणत्वहानिः^४, तदनिरूपितकरण(त)त्त्वस्य^५ ।

क्रियारूपभावनाप्रतिपादकशब्दाभावात् 'इष्टवान्यज्ञैः' इत्यन्वयानुपपत्तिप्रसङ्गात् (ङ्गः) इत्याक्षेप्याह—'इष्टवान्यज्ञैः' इत्यपि द्रव्यप्रधानभावनाधिगमन्निष्ठादिषु तथा प्रतीतेरविरोध इति ॥ अयमर्थः—यद्यपि तत्राख्याताभावाद्भावनाया अभिधानं नास्ति, तथापि द्रव्यप्रधानादप्युपसर्जनीभूता भावना अवगम्यते । कृदन्ताभिहितस्य कर्तृत्वस्य भावनासम्बन्धप्रभावितत्वात् तद(म)न्तरेणानुपपत्तेः । अतो नान्तरीयकतया द्रव्यप्रधानभावनाभ्युपगमात् यज्ञादीनां करणादिभावप्रतीतेर्न कश्चिद्विरोध इति ॥

एवं धात्वर्थातिरिक्तां भावनामाख्यातप्रत्ययाभिधेयां प्रतिपाद्येदानीं पूर्वपक्षवाद्यापादितमनिष्टप्रसङ्गं निराकरणायानुभाषते—यत्तुक्तं—भावनाविषयत्वप्रतीतेः^७ करणत्वहानिरिति ॥ अयमर्थः—तिङन्ते धात्वर्थस्य साध्यताप्रतीत्या 'कः पाकः पचति' इत्यत्र प्रदर्शितया अर्थभेदनिदर्शनेन च 'पाकं करोति पचति' इत्यत्रोक्तेन यः तिङभिधेयां भावनामिच्छति तस्य पक्षे धात्वर्थस्य भावनायां कर्मत्वप्रसङ्गात् करणत्वमिष्टं न सिध्यतीत्युक्तमिति ॥ एवमनुभाष्य परिहारमाह—तदनिरूपितकरणत्व(तत्त्व)स्येति ॥ अनिरूपितकरण(तत्त्व)त्वात्तवैतच्चोद्यं करणस्वरूपनिरूपणायां न सम्भवतीत्यर्थः । एतदेव स्पष्टीकर्तुं करणस्वरूपं निरूपयति—

१. इत्यत्रापि—ग, घ.

२. प्रधाने—ख.

३. भावनोपगमात्—क, ख ; भावनाभ्युपगमात्—ग, घ, ङ.

४. 'तथा' नास्ति—क, ख मातृकयोः.

५. हानिरिति—क, ख.

६. अनिरूपिताकरणत्वात्—ङ ; अनिरूपितकरणत्वात्—क, ख.

७. विषयत्वं च प्रतीतेः—च.

तथा हि—

करणं खलु सर्वत्र कर्तृव्यापारगोचरः^१।

तिरोदधाति कर्तारं प्रधानं तन्निबन्धनम् ॥ ३६ ॥

न खलु कर्तृव्यापारलक्षणभावनाप्या^२ धात्वर्थस्य कर्मत्व-
प्रसङ्गः ३करणत्वबाधो वा, ४परश्वादिषु तथा प्रसङ्गात् । ५न छिदा-

तथाहि—

६करणं खलु सर्वत्र कर्तृव्यापारगोचरः ।

तिरोदधाति कर्तारं प्रधानं तन्निबन्धनम् ॥ (इति) ॥

अयमाशयः—यद्धि करणं परश्वादि तदेव सर्वत्र कर्तृव्यापारस्य साक्षाद्विषयः, न फलम् । फलन्तु करणव्यापारस्य साक्षाद्विषयः । ततश्च तन्निबन्धनं कर्तृव्यापारविषयभूत-
परश्वादिकरणव्यापारनिबन्धनं प्रधानं फलं छिदा कर्तारं तिरोदधाति आरात्करोति । अथवा कर्तृव्यापारगोचरः करणं कर्तारं तिरोदधाति प्रधाननिष्पत्तेरात्करोति, यस्मात्प्रधानं तन्नि-
बन्धनं कर्तृव्यापारविषयभूतकरणव्यापारनिबन्धनमित्येवं ग्रन्थो योजयितव्यः ।

इदानीं श्लोकस्यार्थाविष्करणायाह—न खलु कर्तृव्यापारलक्षणभावनाप्या धात्वर्थस्य
कर्मत्वप्रसङ्गः, करणत्वबाधो वा, परश्वादिषु तथा प्रसङ्गात् इति ॥ अयमर्थः—न कर्तृव्यापार-

१. गोचरं—क.

२. लक्षणभावनाव्याप्या धात्वर्थस्य—क, ख ;

लक्षणायां भावनायां धात्वर्थस्य—ग, घ ;

लक्षणभावनायां धात्वर्थस्य—ङ.

३. अकरणत्वं वा—क, ख, ग, घ, ङ.

४. परश्वादावपि प्रसङ्गात्—क, ख ; परश्वा-

दावपि तथा प्रसङ्गात्—ग, घ ; परश्वा-

दावतथात्वप्रसङ्गात्—ङ.

५. तथाहि—अधिकं वर्तते—ग, घ, ङ, छ.

६. करणं खलु सर्वत्रेति—च.

दिषु^१ साक्षाद्याप्रियते कर्ता, ^२किन्तु परश्वादिकरणे^३ । ^४तद्व्यापारः तदुद्यमननिपातनादिलक्षणः^५ परशुगोचर एव । ^६अतः तस्याव्यवहितव्यापारतया क्रियासिद्धेः^७ साधकतमत्वम् । ^८तद्व्यापारायत्त-

लक्षणभावनाव्याप्तिमात्रेण धात्वर्थस्यानभिमतं कर्मत्वं प्रसज्यते, अभिमतं वा करणत्वं बाध्यते, परश्वादावपि तथा प्रसङ्गात् कर्मकरणत्वबाधयोः प्रसङ्गादिति । एतदेव प्रपञ्चयति—
न छिदादिषु साक्षाद्याप्रियते कर्ता, ^९किन्तु परश्वादिकरणं(णे) । तद्व्यापारः तदुद्यमननिपातनादिलक्षणं(णः) परशुगोचर एव । अतः तस्याव्यवहितव्यापारतया क्रियासिद्धेः साधकतमत्वम् ।
तद्व्यापारायत्तप्रवृत्तितया च करणस्य कर्तुः स्वातन्त्र्यमारादुपकारिणोऽपि । अन्यथा करणतैव
१० न स्यादिति ॥ अयमर्थः—न छिदादिषु फलेषु कर्ता साक्षात् करणव्यापारनिरपेक्षो व्याप्रियते ।
किन्तर्हि? यत्परश्वादि करणम्, तदेव साक्षाच्छिदादिषु व्याप्रियते । क तर्हि साक्षात्कर्तृव्यापार इत्यपेक्षायामुक्तम्—तद्व्यापारः तदुद्यमननिपातनादिलक्षणः परशुगोचर एवेति । तस्य
^{११}कर्तृव्यापारः तद्व्यापारः, तस्य परश्वादेरुद्यमननिपातनादिरूपः परश्वादिकरणगोचर एव, न छिदादिफलविषयः । कथन्तर्हि कर्तृव्यापारविषयस्य परश्वादेः करणतेत्याशङ्क्योक्तम्—
तस्याव्यवहितव्यापारतया क्रियासिद्धेः साधकतमत्वमिति ॥ तस्य परश्वादेरव्यवहितव्यापार-
तया क्रियाफलनिष्पत्तेः स्वव्यापारस्य (च) व्यवधानाभावात् साधकतमत्वं क्रियाफलनिष्पत्तौ प्रत्यासन्नोपकारकत्वादुपपद्यते । कथन्तर्हि परश्वादिकरणव्यापारव्यवहितस्य देवदत्तादेः कर्तृत्व-

१. छिदादिषु न—ग, घ, ङ.

७. सिद्धौ—क, ख.

२. अपि तु—ग, घ, ङ.

८. तद्व्यापारापेक्ष—ग, घ.

३. करणम्—क, ख.

९. अपि तु—छ.

४. तद्व्यापारास्तूद्यमन—क, ख, ग, घ, ङ.

१०. 'न' नास्ति—छ मातृकायाम् ।

५. लक्षणं—क.

११. कर्तृव्यापारः—छ.

६. 'अतः' नास्ति—ख मातृकायाम् । अत एव करणस्य—ग, घ ; अत एव तस्याव्यवहित—ङ.

प्रवृत्तितया च करणस्य ^१कर्तुः स्वातन्त्र्यमारादुपकारिणोऽपि ;
अन्यथा ^२करणतैव न स्यात् ।

अपि च—

साधनानामभावस्यात्कर्तृकर्मातिरेकिणाम् ।
साधनानां नियोगो हि कर्तृव्यापार इष्यते ॥ ३७

मित्याशङ्क्योक्तम्—तद्यापारायत्प्रवृत्तितया च करणस्य कर्तुः स्वातन्त्र्यमारादुपकारिणोऽपीति ॥
तस्य कर्तुः व्यापार उद्यमननिपातनादिलक्षणो यः, तदायत्ता प्रवृत्तिः करणस्य यतः, अतः
कर्तुर्देवदत्तादेः स्वातन्त्र्यमारादुपकारिणोऽप्युपपद्यते । स्वातन्त्र्यञ्च कर्तृत्वम्, न सन्निकृष्टोप-
कारकत्वम् । यदि पुनः कर्तृव्यापारविषयतामात्रेण सन्निकृष्टोपकारिणोऽपि करणता नेष्येत,
तदा सर्वत्र करणतैव न स्यादिति । एतदुक्तम्—अन्यथा करणतैव न स्यादिति ॥ यदा तु
अन्यथा करणतैव स्यादिति नञूरहितः पाठः, तदा अस्यायमर्थः—यदि करणव्यापारव्यवधानेन
विना कर्तुः साक्षादेव फले व्यावृत्ति(प्रति)रिष्येत, तदा कर्तुरेव(रपि) करणतैव स्यात्, फलं
प्रति प्रत्यासन्नतरत्वात्, न कर्तृत्वमिति ।

किञ्च कर्तृव्यापारव्याप्तिमात्रेण कर्मापत्तौ ^३करणत्वबाधे वा अभ्युपगम्यमानेऽनिष्टप्रसङ्गं
चोदयति—अपि च—

साधनानामभावः स्यात्कर्तृकर्मातिरेकिणाम् ।
साधनानां नियोगो हि कर्तृव्यापार इष्यते ॥ (इति) ॥

१. कर्तृस्वातन्त्र्यं—क; स्वातन्त्र्यव्यापारादुप—ऊ.
२. करणत्वतैव न स्यात्—क ; करणमेव
स्यात्—ग, घ, ङ.
३. कारणत्व—च.

प्रलीनेदानीं कर्तृकर्मातिरिक्तसाधनान्तरसङ्कथा^१, ^२साधन-
नियोगः कर्तृव्यापार इति तन्नियोगविषयतापत्त्या ^३सर्वत्र कर्म-
त्वापातात् । ^४कस्तर्हि कर्मेतरविभागः^५ ? कथञ्च करणपरिक्षयिणि^७

यदि कर्तृव्यापारविषयतामात्रेण करणत्वबाधः कर्मतापातश्चाभ्युपगम्यते, तदा कर्तृ-
कर्मव्यतिरिक्तानामधिकरणादीनां कारकाणामभाव एव स्यात् । कथम् ? साधननियोगो हि
कर्तृव्यापारः । स च सर्वसाधनविषय इति सर्वेषां कर्मत्वप्रसङ्गादिति ।

अस्य श्लोकस्यार्थाविष्करणायाह—प्रलीनेदानीं कर्तृकर्मातिरिक्तसाधनान्तरसङ्कथा,
साधननियोगः कर्तृव्यापार इति तन्नियोगविषयतापत्त्या सर्वत्र कर्मा(र्मत्वा)पातात् इति ॥
नात्र तिरोहितमिव किञ्चिदस्ति ॥ यथा कर्तृव्यापारविषयत्वाविशेषेऽपि सर्वेषां कारकाणां
नैकान्ततः कर्मत्वमेव, किन्तु कारकान्तरभावोऽपीष्यते, तथा करणस्यापि कर्तृव्यापारविष-
यस्यापि न कर्मत्वप्रसङ्ग इत्युक्ते चोदयति—कस्तर्हि कर्मेतरविभाग इति ॥ कर्तृव्यापारविष-
यत्वाविशेषे सति सर्वेषां कारकाणां, कर्तृ(र्म)कारकस्येतेषां च कारकाणां कथं विभागः
सम्भवति ? । नहि तत्र विभागहेतुः कश्चिदुपलभ्यते करणवत् । यथाहि करणस्य कर्तृव्या-
पारविषयस्य कर्मकारकात् ^१विभागे हेतुर्नास्ति इति कर्मत्वं प्रसक्तम्, तथा कारकान्तरेष्वपि
कर्तृव्यापारविषयभूतेषु तत्प्रसङ्गः समान एव । ^{१०}कथमसिद्धेनासिद्धं साध्यते इत्यभिप्रायः
कर्तृव्यापारस्य करणविषयत्वेऽन्यमपि ^{११}दोषमापादयति—कथञ्च करणपरिक्षयिणि कर्तृव्यापारे

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|---|---|
| १. साधनान्तरसङ्कथा—क ; साधनान्तर-
कथा—ग, घ. | ५. कथं तर्हि—ग, घ, ङ. |
| २. साधनान्तरनियोगः—ग, घ, ङ. | ६. संविभागः—ग, घ, ङ. |
| ३. इति नियोगविषयताप्रतीत्या—क, ख ;
इति नियोगविषयतातिपत्त्या—ग, घ ;
इति नियोगविषयताप्रतिपत्त्या—ङ. | ७. परिक्षीणे—ग, घ, ङ.
८. कारकाणां तेनात्रान्ततः—
९. विभागो—छ. |
| ४. सर्वकर्म—ङ. | १०. कथं सिद्धेना—छ.
११. दोषप्रसङ्गम्—छ. |

SIDDHITRAYA

BY

YĀMUNĀCĀRYA



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॥ श्रीः ॥

॥ श्रोमते यामुनाय नमः ॥

॥ संवित्सिद्धिः ॥

एकमेवाद्वितीयं तद्ब्रह्मेत्युपनिषद्वचः ।
ब्रह्मणोऽन्यस्य सद्भावं ननु तत्प्रतिषेधति ॥
अत्र ब्रह्मोऽद्वितीयोक्तौ समासः को विवक्षितः ।
किं स्वित्तत्पुरुषः किं वा बहुव्रीहिरथोच्यताम् ॥
पूर्वस्मिन्नन्तरस्तावत्प्राधान्येन विवक्ष्यते ।
पदार्थस्तत्र तद्ब्रह्म ततोऽन्यत्सदृशं तु वा ॥
तद्विरुद्धमथा वा स्यात्त्रिष्वप्यन्यं न बाधते ।
अन्यत्वे सदृशत्वे वा द्वितीयं सिद्धयति ध्रुवम् ॥
विरुद्धत्वे द्वितीयेन तृतीयं प्रथमं तु वा ।
ब्रह्म प्राप्नोति यस्मात्तद् द्वितीयेन विरुद्धयंतं ॥

It is contended that the upaniṣadic text “Brahman (exists) one only, without a second” denies the existence of everything other than Brahman. Against this contention we argue as follows:—In what light is the compound word *advitīya* to be understood ? Is it a *iatpuruṣa* or a *bahuvrīhi* compound ? If it is the former, the significance of the latter part of the compound word must be considered as primary. Does the latter part declare that Brahman is ‘different from’ or ‘similar to’ or ‘opposed to’ *dvitīya* (the second)? In none of these alternatives does the text deny the existence of something other than Brahman. A second entity is clearly established if the word *advitīya* signifies ‘different from’ or ‘similar to.’ If it means ‘opposed to the second’, then Brahman must be either a first or a third entity ; for what stands opposed to the second is ‘the first’ or ‘the third’. Therefore, hosts of objects, three and more,

अतस्सप्रथमास्सर्वे तृतीयाद्यर्थाशयः ।
 द्वितीयेन तथा स्पृष्टास्वस्थास्तिष्ठन्त्यबाधिताः ।
 ननु नञ् ब्रह्मणोऽन्यस्य सर्वस्यैव निषेधकम् ।
 द्वितीयग्रहणं यस्मात्सर्वस्यैवोपलक्षणम् ॥
 नैवं निषेधो न ह्यस्माद् द्वितीयस्यावगम्यते ।
 ततोऽन्यत्तद्विरुद्धं वा सदृशं वात्र वक्ति सः ॥
 द्वितीयं यस्य नैवास्ति तद्वद्भेति विवक्षितं ।
 सत्यादिलक्षणोक्तीनामपलक्षणता भवेत् ॥
 अद्वितीये द्वितीयार्थनास्तितामात्रगोचरे ।
 स्वनिष्ठत्वान्नञर्थस्य न स्याद्ब्रह्मपदान्वयः ॥
 द्वितीयशून्यता तत्र ब्रह्मणो न विशेषणम् ।
 विशेषणे वा तद्वद्भ्य तृतीयं प्रथमं तु वा ॥

along with the single entity untouched by duality (i.e., all objects with the exception of the second) do assuredly exist uncontradicted.

Since the term 'the second' (*dvitīya*) has the implicit designation (*upalakṣaṇa*) of also the third, the fourth and so forth, it may be urged that the negative particle denies everything other than Brahman (and not merely the second). But the reply is "Not so." The denial of a second entity should not be inferred from this expression ; it only asserts that Brahman is something 'different from' or 'opposed to' or 'similar to the second.'¹

If it is said that Brahman may be described as that which has no trace of duality, then words such as *satya* which define Brahman would turn out to be erroneous definitions (for they imply substance-attribute relation). If the expression *advitīya* were to denote merely the absence of a second, Brahman would be self-existent, and, as such, the negative particle could not be associated with the term Brahman.

'Being without a second' cannot be a qualification of Brahman. Were it a qualification, it would (as already shown) follow that Brahman is either the first or the third entity.

प्रसक्तं पूर्ववत्सर्वं बहुव्रीहौ समस्यति ।
 ब्रह्मणः प्रथमा ये च तृतीयाद्या जगत्त्रये ॥
 ब्रह्म प्रत्यद्वितीयत्वात्स्वस्थास्तिष्ठन्त्यवाधिताः ।
 किं च तत्र बहुव्रीहौ समासे संश्रिते सति ॥
 व(वृ)त्त्यर्थस्य नञर्थस्य न पदार्थान्तरान्वयः ।
 सत्यार्थान्तरसम्बन्धे षष्ठी यस्येति युज्यते ॥
 द्वितीयवस्तुनास्तित्वं न ब्रह्म न विशेषणम् ।
 असत्त्वान्न ह्यसद्ब्रह्म भवेत्वापि विशेषणम् ॥
 तस्मात्प्रपञ्चसद्भावो नाद्वैतश्रुतिबाधितः ।
 स्वप्रमाणबलात्सिद्धश्रुत्या चाप्यनुमोदितः ॥

Even if the word is taken as a *bahuvrihi* compound, it would follow that all objects exist. All objects of the three worlds, which, in relation to Brahman, could be spoken of as the first, the third, fourth and so on, would exist safely and without any danger of ever being contradicted; for all that is denied is merely the possession of a second.

Moreover, if the word is taken as a *bahuvrihi* compound, the significance of the negative particle found in the compound cannot be said to be associated with anything else; for it is only in the event of there being a true relation (of Brahman) with something else that the genitive case implied in the compound (*that for which* there is no second) would be appropriate. (It is only if the phrase 'not having a second' could be attributed to something, that *advitīya* could be taken as a *bahuvrihi* compound).

The phrase 'The absence of a second' does not mean Brahman itself nor an attribute thereof. For it is essentially negative, while Brahman is really not negative. Nor could it be an attribute of Brahman; (for according to the opponent, Brahman is devoid of qualities). Thus the existence of the world is not contradicted by scriptural texts speaking of reality as non-dual. The existence of the world is established by the sources of knowledge (*pramāṇas*) relevant thereto. Their verdict is further confirmed by scriptural testimony.

तेनाद्वितीयं ब्रह्मेति श्रुतेरर्थोऽयमुच्यते ।
 द्वितीयगणनायोग्यो नासीदस्ति भविष्यति ॥
 समो वाभ्यधिको वास्य योऽद्वितीयस्तु गण्यते
 यतोऽस्य विभवव्यूहकलामात्रमिदं जगत् ॥
 द्वितीयवागास्पदतां प्रतिपद्येत तत्कथम् ।
 यथा चोऽनृपस्सम्राडद्वितीयोऽयं भूतले ॥
 इति तत्तुल्यनृपतिनिवारणपरं वचः ।
 न तु तदभृत्यतत्पुत्रकलत्रादिनिषेधकम् ॥
 तथा सुरासुरनरब्रह्मब्रह्माण्डकोटयः ।
 क्लेशकर्मविपाकाद्यैरस्पृष्टस्याखिलेशितुः ॥
 ज्ञानादिषाड्गुण्यनिधेरचिन्त्यविभवस्य ताः ।
 विष्णोर्विभूतिमहिमसमुद्रद्रप्सविमुषः ॥
 कः खल्वङ्गुलिभङ्गेन समुद्रान्सप्तसङ्ख्यया ।
 गणयन्गणयेद्दूर्मिफेनबुद्बुदविमुषः ॥

The real significance of the text—"Reality exists one only and without a second (*advitīya*)"—may now be explained. The person who is considered *advitīya* is one who neither has, nor had, nor will have an equal or a superior capable of being counted as a second. How could the world be referred to as a second when it is but a small fraction of the entire collection of entities which constitute His possessions and which are under His sway (*vibhava*)? The statement "The paramount ruler of the Cola country now reigning is without a second in this world"—is intended to deny the existence of a ruler equal to him. It does not deny the existence of his servants, sons, consort and so on. Similarly, the whole host of *devas*, *asuras* and men, the four-faced *Brahmā* and the cosmic egg form but a small part of a drop from the ocean of the greatness (*māhīmā*) of the possessions (*vibhūti*) of the Lord *Viṣṇu* who is the Lord of all, who is touched neither by sorrows (*klēśas*) nor by merits, demerits (*karma*) or (*vipāka*)² and so forth, and who is the seat of the sixfold qualities of knowledge (*jñāna*) and the like, and whose greatness cannot even be conceived by the mind. Which person, who counts with his fingers the oceans as seven, is capable of counting the waves, foam, bubbles and drops of water found therein?

यथैक एव सविता न द्वितीयो नभस्स्थले ।
इत्युक्त्या न हि सावित्रा निषिध्यन्तेऽत्र रश्मयः
यथा प्रधानसङ्ख्येयसङ्ख्यायां नैव गण्यते ।
सङ्ख्या पृथक्सती तत्र सङ्ख्येयान्यपदार्थवत् ॥

तथा,

पादोऽस्य विश्वा भूतानि त्रिपादस्यामृतं दिवि ।
इति ब्रुवन् जगत्सर्वमित्थंभावे न्यवेशयत् ॥

तथा,

एतावानस्य महिमा ततो ज्यायस्तरो हि सः ।
यत्रान्यन्न विजानाति स भूमोदरमन्तरम् ॥
कुरुतेऽस्य भयं व्यक्तमित्यादिश्रुतयः पराः ।
मेरोरिवाणुर्यस्येदं ब्रह्माण्डमखिलं जगत् ॥

Just as the presence of the rays of the sun is not contradicted by the statement—"There is but a single sun in the sky, and not two"—and just as when objects are counted the number (*sankhyā*), which is different therefrom is not counted, in the same way in which the objects are counted, even so when Brahman is declared to be without a second, the existence of His possessions is not denied. Texts such as—"All beings constitute but a quarter of Him, three-fourths remaining immortal in heaven"³—declare that the entire cosmos is but a mode of Brahman.

Śruti and smṛti texts, such as the following, purport to show that the world is a mode (*prakāra*) of Brahman. "His possessions are so immense. He is greater than these".⁴ "That wherein he does not cognise anything other than Brahman is the highest of all (*Bhūmā*)";⁵ "He is sure to be afflicted with fear who sees anything as different from Brahman (i.e., anything as not belonging to Brahman)";⁶ "He before whom the cosmic egg and the entire universe pale into insignificance, just as an atom does before Mount Meru."

3. Puruṣa-Sūkta.

4. Puruṣa-Sūkta.

5. Chānd. Up., VII.24.1.

6. Tait. Up., II.7.

इत्यादिकास्समस्तस्य तदित्थंभावतत्पराः ।
 वाचारम्भणमात्रन्तु जगत्स्थावरजङ्गमम् ॥
 विकारजातं कूटस्थं मूलकारणमेव सत् ।
 अनन्यत्कारणात्कार्यं पावकाद्विस्फुलिङ्गवत् ॥
 मृत्तिकालोहबीजादिनानादृष्टान्तविस्तरैः ।
 नाशकद्गधुमनलस्तृणं मज्जयितुं जलम् ॥
 न वायुश्चलितुं शक्तस्तच्छत्तयाप्यायनादृते ।
 एकप्रधानविज्ञानाद्विज्ञातमखिलं भवेत् ॥
 इत्यादिवेदवचनतन्मूलाप्तागमैरपि ।
 ब्रह्मात्मना(स्वा ?)त्मलाभोऽयं प्रपञ्चश्चिदचिन्मयः
 इति प्रमीयते ब्राह्मो विभूतिर्न निषिध्यते ।
 तन्निषेधे समस्तस्य मिथ्यात्वाल्लोकवेदयोः ॥
 व्यवहारास्तु लुप्येरंस्तथा स्याद्ब्रह्मधीरपि ।

The world consisting of objects which are liable to modifications and which are either moveable or immovable exists for purposes of speech. The unchanging and ultimate cause of all these is *sat* alone. Just as the sparks are not different from fire wherein they take their rise, even so the effect is not different from its cause. That the effect is not different from its cause is shown by numerous illustrations, such as clay, iron, seed and so forth. Without being nourished by Brahman's power, fire would not be capable of burning even a blade of grass; water would not be capable of drowning; and the wind would be unable to move. "By an understanding of the one Supreme Being, all become known."

With the aid of scriptural texts such as the foregoing and *smṛti* texts based thereon, it is learnt that the world constituted of sentient and non-sentient objects derives its very being from the fact of its having Brahman for its soul. The possessions of Brahman are not contradicted by these passages. Should it be contended that their existence is denied, then it would follow that all activities, sacred and secular, nay even the knowledge of Brahman would cease to be; because everything (other than Brahman) would be illusory.

व्यावहारिकसत्यत्वान्मृषात्वेऽप्यविरुद्धता ॥
 प्रत्यक्षादेरिति मतं प्रागेव समददुषम् ।
 अतश्चोपनिषज्ज्ञा(ज्ञा ?)तब्रह्माद्वैतधिया जगत् ॥
 न बाध्यते विभूतित्वाद्ब्रह्मणश्चेत्यवस्थितम् ।
 ननु सत्त्वे प्रपञ्चस्य नास्तीति प्रत्ययः कथम् ॥
 असत्त्वे वा कथं तस्मिन्नस्तीति प्रत्ययो भवेत् ।
 सदसत्त्वं तथैकस्य विरुद्धत्वादसंभवि ॥
 सदसत्प्रत्ययप्राप्तविरुद्धद्वन्द्वसङ्गमे ।
 तयोरन्यतरार्थस्य निश्चयाभावहेतुतः ॥
 सदसत्त्वं प्रपञ्चस्य जैनास्तु प्रतिजानते ।

I have already refuted the contention that although objects are in fact illusory, perceptual experience and the like are not contradicted, in so far as objects are said to possess phenomenal reality (*vyāvahārika satyatva*). Thus, it follows that, since the world is the possession of Brahman, its existence is not contradicted by the knowledge afforded by the Upaniṣads, namely, that Brahman is without a second.

The objector might ask: If the world exists, how could negative judgments (such as “There is no jar”) arise? We ask him in reply “If the world were non-existent, how could affirmative judgments (like “There is a jar”) arise?

(Should it be said that since both negative and affirmative cognitions do arise, the world is at once *sat* and *asat*, it is replied that) *sat* and *asat* cannot characterise the self-same entity; for they are contradictory qualities.

When contradictory qualities are attributed to the self-same entity on the strength of contradictory cognitions of ‘existence’ and ‘non-existence’, there is no certainty as to which of them is true. For this reason, the Jains declare that existence and non-existence could be attributed to the world.

सत्त्वप्राप्तिं पुरस्कृत्य नास्तीति प्रत्ययोदयात् ॥
 सदा सत्त्वं प्रपञ्चस्य सांख्यास्तु प्रतिपेदिरे ।
 सदसत्प्रत्ययप्राप्तविरुद्धद्वन्द्वसङ्कटे ॥
 विरोधपरिहारार्थं सत्त्वासत्त्वांशभङ्गतः ।
 सदसद्भ्यामनिर्वाच्यं प्रपञ्चं केचिदूचिरे ॥
 सत्त्वासत्त्वे विभागेन देशकालादिभेदतः ।
 घटादेरिति मन्वाना व्यवस्थामपरे जगुः ॥
 तदेवं वादिसंमर्दात्संशये समुपस्थिते ।
 निर्णयः क्रियते तत्र मीमांसकमतेन तु ॥
 घटस्वरूपे नास्तित्वमस्तित्वं यद्यबूबुधत ।
 स्यादेव युगपत्सत्त्वमसत्त्वं च घटादिषु ॥

Since the cognition of non-existence presupposes awareness of existence, the Sāṅkhyas maintain that the world is always characterised by existence.

In order to get over the contradiction presented by the mutually opposed qualities arising from the cognition of existence and non-existence, some thinkers, rejecting both the features of reality and unreality, assert that the world cannot be defined either as *sat* or as *asat* (*sada-sadanirvacanīya*).

Finding that in regard to different times and places, both existence and non-existence could characterise jars and other objects, yet others believe that both existence and non-existence may characterise the world on the basis of certain well-defined spatial and temporal differences.

When doubt is engendered as a result of the keen controversy that rages between these rival theorists, a decision in regard to this matter is arrived at by us in accordance with the Mīmāṃsaka theory.

If a person were to cognise the jar as being at once existent and non-existent, then only could the contradictory features of *satva* and *asatva* be attributed to the jar simultaneously. Since our cognitions

व्यवस्थितं निरस्तत्वाद्वादस्येह न संभवः ।
 ननु देशादिसम्बन्धस्सत एवोपपद्यते ॥
 न देशकालसम्बन्धादसतस्सत्त्वमिष्यते ।
 सम्बन्धो द्व्याश्रयस्तस्मात्सतस्सत्त्वं सदा भवेत् ॥
 असतः कारकैस्सत्त्वं जन्मनेत्यतिदुर्घटम् ।
 आद्यन्तवान्प्रपञ्चोऽतस्सत्कक्ष्यान्तर्निवेक्ष्यते ॥

उक्तं च,

आदावन्ते च यन्नास्ति नास्ति मध्येऽपि तत्तथा ।
 अतो निश्चितसद्भावस्सदा सन्नभ्युपेयताम् ।
 असतस्सर्वदाऽसत्त्वं जन्ययोगात्खपुष्पवत् ॥
 असत्वे न विशेषोऽस्ति प्रागत्यन्तासतोर्हि ।

take the following form—"This exists here at this moment" or "It is not here at present"—as a consequence of differences of space, time and states, it has to be inferred that, on the basis of such distinctions of space, time and states, *satva* and *asatva* could be attributed simultaneously to the jar. Hence, it may be concluded that reality and unreality may both be attributed to the jar and the like on the basis of differences of space, time and so forth. This doctrine need not now be considered, as it has already been refuted.

Relation with space and time is intelligible only in the case of *sat* (i.e. The *asat* could not be in contact with space and time). How, then, could it be maintained that the unreal acquires reality with the aid of its relation with space and time? For relation (*sambandha*) is what is found in two relata. Thus the real (*sat*) always possesses the feature of reality. It is impossible for causal factors, however powerful, to create the quality of existence in what is essentially unreal. Hence the universe which has a beginning and end must be included in the category of reality. It has already been said that what does not exist at the beginning and in the end must also be non-existent in the middle. Therefore, from the certain fact of its existence now, let it be admitted that the world exists at all times.

Since unreality can never be created, it always belongs to the unreal, as in the case of the sky-flower. There is no distinction between what is absolutely non-existent and what does not exist at an antecedent time in so far as the aspect of non-existence is concerned, (i.e., differences of space, time and state could neither make the unreal real; nor could they make the real unreal).

.... ॥

श्वेतकेतुमुपादाय तत्त्वमित्यपि यच्छुतम् ।

षष्ठप्रपाठके तस्य कुतो मुख्यार्थसम्भवः ॥

कार्पण्यशोकदुःखार्तश्चेतनस्त्वंपदोदितः ।

सर्वज्ञस्सत्यसङ्कलो निस्सीमसुखसागरः ॥

तत्पदार्थस्तयोरैक्यं तेजस्तिमिरवत्कथम् ।

त्वमर्थस्थे तटस्थे वा ॥

गुणे तत्त्वंपदश्रुत्योरैकार्थ्यं दूरवारितम् ।

अज्ञत्वसर्ववेदित्वदुःखित्वसुखितादिके ॥

विशेषणे वा चिद्धातो (द्व्यक्ते) रथवाप्युपलक्षणे ।

विरुद्धगुणसङ्क्रान्तेर्भेदस्स्यात् त्वन्तर्दर्थयोः ॥

* * * *

(The opponent may ask.—) When in the sixth chapter of the *Chandogya Upaniṣad*, taking the instance of Śvetaketu, it is declared “*Tat tvam asi*,” how could the words ‘*tat*’ and ‘*tvam*’ be assigned their primary meanings? The finite soul which is afflicted by helplessness, misery and sorrows is referred to by the term *tvam*. The omniscient Being, who has a will that is ever-realised and who is the sea of illimitable bliss, is the significance of the word ‘*tat*.’ How could these two, which are opposed to each other even as light is opposed to darkness, be equated?

* * * *

When the qualities found in the object referred to by the term ‘*tat*’ and those belonging to the entity denoted by the term ‘*tvam*’ (are wholly opposed to one another?) the view that the terms ‘*tat*’ and ‘*tvam*’ refer to an identical entity has been completely rejected. Whether characteristics such as ignorance and omniscience, suffering and enjoyment be taken as attributes (*viśeṣaṇas*) or as secondary marks (*upalakṣaṇas*) of the conscious entity, in any case the meanings of the terms *tat* and *tvam* must be different; since, otherwise, contradictory features would have to be attributed to an identical object.

Reviews

Economics, a Social Science—By Father Carty.

This book constitutes a collection of Sir William Meyer Lectures for 1939-40 delivered by Father Carty at the University of Madras. The main theme running through all the lectures is that Economics is, and should be, a practical science devoted to the betterment of humanity. The author deals with the social and normative character of Economics and deprecates the tendency to limit the science to its theoretical aspect only by cutting it away from the social background. These six lectures of Father Carty form a brilliant piece of criticism and constructive analysis, full of forceful arguments. The book is amply supported by the views of eminent authorities. They establish the point that Economics should not be a sterile and merely positive science but should be a useful instrument in furthering the economic progress and social happiness of mankind.

In his first lecture, the author traces briefly the history of the controversy regarding the purpose of Economics, whether it should be merely a theoretical, abstract, positive or "light bearing" subject or whether it should be an ethical, normative and "fruit-bearing" science. After examining the views of Adam Smith, Marshall, Pigou and others he comes to Prof. Robbins' view that Economics is nothing more than a science of choosing the best means. The author contends that Prof. Robbins' view is inadequate and unsatisfactory. Having indicated the "place which the concept of economics as a Social Science held in the evolution of the liberal economic thought," the learned author wants the aim of Economics to be clarified and defined as essentially a Social Science devoted to the growth of social happiness.

In his second lecture, "Social Foundation of Economics", the subject matter and the scope of the science is well analysed and explained. The author defines his concept of Social Economics as "the Science which establishes the laws of human behaviour concerning the material interests which form part of the common good of Society."

In his third lecture, "Positive and Normative Science," he demonstrates that the positive science is inadequate and shows how economics

is essentially evolutionary and normative. Referring to the excessive abstractions of some he says: "These economists, concerned only with what tends to be, and describing what the tendencies are or can possibly be, are led to use the various processes of reasoning, logical and mathematical, abstractions and assumptions, away from the facts of real life, in their endeavour to discover the general laws or tendencies of that science. The danger, on the other hand, is that too much abstract reasoning and aloofness from the concrete facts distort the vision and may turn much toil to little use."

In his fourth lecture, the author deals with the problem of reconciling economic principles with the demands of equity. The problems of inequality of income, wages, family allowances, etc., are viewed critically with an appeal to the economists "to face boldly in a constructive spirit the theoretical problems of Normative Economics conceived as organically related both to philosophical ethics and to political philosophy."

The fifth lecture deals with the realisation of economical welfare in the social background. The author goes into the larger problem of socio-economic organisation and the political framework of society. He examines the function of the State and the nature of private property, etc., which form the basis of modern economic organisation, and critically analyses Liberalism, Socialism and National Socialism. He finds them all unsatisfactory. To him Socialism is not in the interests of Society, and National Socialism is but the destruction of the rights of the individual. The real need is for "maintaining the proper balance between the rights of the individual and those of the State." Then only can the problem of Social economics be solved satisfactorily.

A solution of the problem of harmonising the State with the individual is attempted in the last lecture. The State as well as the citizen must co-operate for the furtherance of economic welfare. "These are the two pillars—individual and social—on which the structure must rest, in the further determination of the respective spheres of economic activity allotted to the two agencies." The author prefers the principle of corporate organisation for the reconstruction of social life and has given the main outlines of his scheme.

The name of Father Carty is very familiar and dear to students of Economics in South India. His lectures are interesting and inspiring since they are the outcome of decades of intensive study, discussions and a close examination of the trends of world politics and economics.

Having been a teacher for over thirty years the author has produced a very able defence of Economics as a light and guide to the affairs of men. This book bristles with critical discussions and illuminating quotations from eminent authors and thinkers from different parts of the world. Though this volume claims to be mainly suggestive and not exhaustive it succeeds in proving the necessity for an ethical basis for the economic science. There is no doubt that all will respect Father Carty's views and I am sure many would willingly adopt his opinions as their own. These lectures from the doyen of South Indian Economists are bound to be of great educational value both for students and for those who are interested in the social improvement and economic progress of their country.

B. V. NARAYANASWAMY.

A Note on Father Gnanaprakasara's Etymological and Comparative Lexicon of the Tamil Language.

It is a well-known fact that comparative Grammars and Comparative lexicons are the foundations upon which theories regarding the relationship of languages could be reared. In the matter of the Dravidian languages a comparative lexicon has been a long-felt need, a comparative grammar having been written as early as 1856 by that venerable scholar, Dr. Caldwell. Although a promise was made by Sir W. W. Hunter of the Bengal Civil Service in 1868 that he would publish a "Comparative Grammar of Non-Aryan Speech" which he had then in hand, that work apparently has not seen the light of day. Had the promise been realised, we should have had a new glorious vista opened to us, for he was of the firm belief that the study of the non-Aryan tongues of India was destined to open the door to the vast linguistic residue and to furnish the basis of a new science of language. A well-written etymological and comparative lexicon of the Tamil language is sure to throw a flood of light on many of the most important problems in comparative Philology not only because the comparative side cannot overlook the historical side of language but also because, generally speaking, Tamil is one of the most ancient and earliest cultivated languages of the world.

It is only in the 16th century that some Spanish priests helped in the compilation of grammars and dictionaries of American and Philippine languages. In 1786-87 there appeared a glossary of 285

words in 200 languages of Europe and Asia edited at the behest of Empress Catharine of Russia by the famous German traveller P. S. Pallas. The next decade saw the inclusion of 80 more languages, chiefly African and American. Between 1800 and 1805 a Spanish Jesuit, by name Hervas, edited a similar work. The next great work of this kind appeared in 1817, even although it had been planned before 1806. That four-volume treatise was published with the title *Mithridates* by Johann Severin Vater after the death of the German scholar Johann Christoph Adelung who had worked at it. In 1868, Sir W. W. Hunter published a comparative dictionary of the Languages of India and High Asia, and in 1874 Mr. C. Campbell of Calcutta published specimens of Languages of India including those of the Aboriginal tribes of Bengal, the Central Provinces and the Eastern frontier. As a result of the work in 1894 leading to a survey of the several Indo-European and foreign languages in the Indian Empire under the direction of Sir George Grierson, some lists of words were published before 1927.

These are the forerunners of modern comparative dictionaries. The work by Rev. Fr. S. Gnanaprakasara, though like them in certain respects, is yet unlike them for it seeks to establish the similarities and correspondences between the Dravidian and the Indo-European languages in the matter of roots or word-materials. This, however, is not the purpose of the book but only a necessary sequel. The book is well-planned. The intention is to issue it in two volumes of a thousand pages each. Two hundred pages have now appeared as the first two parts of Vol. I. The first part, besides containing a good preface by the author, has a "Philological Introduction" to the book written in eight sections. Of these, Sections IV and VI have been written in Tamil for the benefit of the Tamil reading public. The first section relates to 'the Laws of Dravidian Etymology' as sponsored by the author. The main pivot of the theory of the author on which the whole book seems to turn is that there were only four types of words to start with, they having been composed of one of the deitic bases *a* indicative of being near, *u* of being remote, *i* of being beneath and *e* of being above. "The distinction of predicative words came later. Consonants were harnessed to the deitics for emphasising and thus distinguishing, in different ways, the spatial relations of things with others and in themselves." There are 8 laws mentioned in this section, of which "the law (Law V) of Initial Intensive Consonants" has been

explained at greater length, since it is a controversial point, in a separate paper of the author under that title. To a question whether it was not a well-known fact that initial consonants are gradually dropped rather than newly prefixed to words, the author has replied, by stating (p. 15 of the paper) that in the process of building up a language consonants were used first as finals or formatives in order to differentiate one word from another but when all the resources furnished by the formatives,—first interchanging, then doubling and lastly repeating them—were exhausted, one *had* to turn to the new device of using the same difficult sounds as initials.

Section II is an introduction to the phonetic changes that generally take place in the Dravidian and the Indo-European. Section III points out under certain well-known sub-heads the semantic tendencies. According to the author the basic principle of Dravidian semantics is that the first meanings of all primary words had reference to concrete things (or to spatial relation in things). Section IV is only a Tamil version of the foregoing sections in English. Sections V to VIII contain bibliographies and Explanation of abbreviations etc.

Then begins the Lexicon proper. Words up to “aḍḍam” are comprised in Part I. Part II takes the matter upto “Alakamāṇ”. The derivations are all given, bearing in mind the postulates of the author regarding the primary roots. Clear explanations are given in English and Tamil. Care has been taken to show how developments, according to the author, have taken place in the significance of the words; primary meanings have been placed first, secondary next and so on. It would have been better if dates, as far ascertainable as may be, were given on the model of the New English Dictionary, if only for the benefit of the non-Tamil public. But to expect “a busy missionary”, who has undertaken this stupendous work single-handed, to ascertain the exact first occurrences of the words in Tamil literature is not totally reasonable. Anybody could do that later on. After the etymons or true origins, according to the views of the compiler, and after the explanations in English and Tamil are given, there follow as sub-joined notes, wherever necessary, comparisons instituted with the forms in other languages. Allied Sanskrit words are traced to their very roots in these notes. Compound words are generally given under the words constituting the first members of the compounds. All these are commendable features of the book. Occasionally the Roman numerals are put after the derivation and they

imply that they refer to the particular Laws of Etymology enunciated by the author in the Preface. Thus, for a thorough understanding and close following of the lexical matter one has first to acquaint oneself with what is contained in the Preface. The Preface itself is very interesting and deserves careful study. The execution of the work has been on the whole quite good. The author must be congratulated on having brought out single-handed these parts of the Lexicon, which will ever be a monument of his labour of love and zeal and which will help greatly the seekers of knowledge and votaries of truth to know and to realise more and more the importance and greatness of the Tamil language, which has not only been not understood but oftentimes misrepresented. Time alone will show how far we can advance by Gnanaprakasas's method.

There was a time when Hebrew was considered to be the parent of all other languages. That illusion is now gone. For a brief time, a confused notion that the European languages were derived from Sanskrit was in vogue, but it was Sir William Jones that in 1786 dispelled this wrong idea and put forth the view that Sanskrit, Latin, Greek and so on "have sprung from some common source which no longer exists." August Schleicher (1821-68) emphatically denied any relationship between the Indo-European and Semitic consonants. The theory the compiler of this Lexicon is advancing, namely, that the Dravidian and the Indo-European came from a common stock, has not so far been generally accepted by philologists. He himself is conscious of this (Preface, p. vi). It is just possible that with fresh data becoming available from time to time, it could be proved one day that the Dravidian and the Indo-European came from a common parent. What primarily stands in the way of accepting today such a position as this is that similarity in grammatical structure is lacking. Rev. Fr. Gnanaprakasas suggests however (Preface p. xxi), that the two families of languages became separated at the root stage and that the morphology of each family was independently worked out. In this connection, the remarks made by Holger Pedersen of the Copenhagen University in respect of the similarities between the Indo-European and Finno-Ugrian seem to be worthy of note. He said "consideration of the problem whether sound-laws still unknown to us, or morphological development not yet understood, have obliterated the originally more numerous points of similarity, whether the vocabulary in one of the families was largely renewed after the period in common, we must postpone until later." Here too, it is possible to discover such sound-

laws and processes of morphological development as will ultimately help in establishing the relationship between the Dravidian and the Indo-European but till then it could not be claimed that the relationship has been proved.

The Head of the Tiruppanandāl Mutt, His Holiness Kāśivāsi Swaminatha Tambiran, has helped the author to a certain extent by means of meeting the cost of the publication of Part I. It is hoped that other philanthropists, whom our country is not lacking, will help the author in bringing out in its entirety the Lexicon, which may form the basis of many fruitful studies hereafter. The author himself does not claim that all his derivations would be acceptable (Preface, p. vii). All the same, the book is a valuable and interesting record of his impressions and *bona fide* belief that the Dravidian and the Indo-European families were at one time related and that ultimately the relationship could be further broadened so that the Unity of language on Earth may probably be established. The book therefore seems to nurture the suspicion that all the languages of the globe are related to one another—a position which scholars of the eminence of Dr. T. G. Tucker and Mr. H. Pedersen are reluctant to assume.

A. C. CHETTIAR.

Road Rail Transport—By Mr. S. R. N. Badri Rao, M.A., M.Litt., with an Introduction by Prof. B. V. Narayanaswamy Naidu, General Editor, Annamalai University Economic Series, 1941 (Pp. lvii + 608, price Rs. 5).

This is a publication by the Annamalai University, being originally a thesis prepared by Mr. S. R. N. Rao under the guidance of Prof. B. V. Narayanaswamy Naidu and approved for the degree of Master of Letters. In this volume Mr. Rao has made a comprehensive and careful study of the problems of Road Rail Transport with special reference to conditions prevalent in Travancore, Coimbatore and Hyderabad. The book is divided into two parts: Part I deals with Railway Transport, while Part II deals with Road (Motor) Transport. Each part covers quite a wide range of topics. In Part I, the author takes a general survey of the development of road and rail transport in India and examines their respective spheres of influence. This is followed by a very interesting and clear exposition of the theory and practice of Railway Rates, illustrations being drawn from conditions prevailing in America, Canada, Africa and Australia. The influence of competition

in rate-making is clearly brought out and the different ways in which railways resort to discrimination and at times, show undue preference, are explained with special reference to Indian conditions. A very interesting section of the thesis relates to the analysis of Indian freight rates in respect of some important commodities, such as coal, tobacco, linseed, groundnuts and rice. Other chapters in Part I deal with some aspects of Railway Administration, such as railway finance and the problem of increased railway earnings.

In Part II the author deals with the various aspects of road transport relating to its operational basis and the competitive ability of roads as compared with Railways. In this connection, a very commendable and original attempt has been made to assess the comparative road and rail freight rates. This is followed by an original and novel study of the transportation systems in Travancore, Coimbatore, Hyderabad and of the London Transport Board, showing how a well organized transport system, whether undertaken by the State as in Travancore and Hyderabad or private enterprise as in Coimbatore could function smoothly. Subsequent chapters deal with the need and method of road transport control legislation in foreign countries and the problem of rail-road co-ordination. The author, while welcoming statutory co-ordination of these two forms of transport, stresses the need for voluntary co-ordination side by side.

The publication under review is probably the first successful attempt at a detailed study of the problem of rail and road transport in this country. The author has taken very great pains in collecting his data, in spite of the none too helpful attitude of the Railways, and presenting them in an intelligent and intelligible manner. The thesis bears obvious marks of constructive scholarship, commendable patience, and unbiased judgment. Both Mr. Rao and his Professor, Dr. B. V. Narayanasyamy Naidu, deserve to be warmly congratulated on this publication which does credit to the research work carried on under the auspices of the Annamalai University. Mr. Rao's work merits wide publicity, and we feel sure that a careful perusal of the Volume will amply repay the reader interested in obtaining accurate knowledge and helpful guidance in respect of the present day transport problems and policies in this country. The utility of the book is enhanced by the inclusion of statistical appendices, bibliography road and railway maps and graphs.

S. G. BERI.

The Madras General Sales Tax Act—A Study. By Dr. B. V. Narayana-swamy Naidu and Mr. S. Thiruvengadathan, published by the Annamalai University, 1940, (pp. 220, price Rs. 1-8-0).

This is a very timely and welcome publication in view of the introduction of new taxes such as the sales tax by some of the Provincial Governments in India since the inauguration of Provincial Autonomy in April 1937. The subject of sales taxes is comparatively a novel one in this country with the result that all kinds of misconceptions prevail about it in the country. The authors are to be congratulated on their commendable study of the operation of the Madras General Sales Tax Act (1939) in the South Arcot District of the Madras Province.

The book under review covers a wide ground. The authors offer a very readable account of the Sales Taxes in foreign countries where these taxes have been a feature of the fiscal systems in the war (1914-18) and post-war years. The only notable exception to the wide spread prevalence of Sales Taxes is Great Britain, which has not resorted to them partly because of the popular feeling that they constitute a burden on business and partly because of the psychology of the tax payer who prefers direct to indirect taxes. The Madras Sales Tax, while it conforms to the broad principles of sales taxes in foreign countries, yet differs from them in certain respects, such as omission of services on the one hand but inclusion of food and other necessities of life on the other. The authors justify their departure in view of the special conditions in the Madras Province. They give a very succinct account of the history of the sales tax in recent years in the several provinces in India and also offer illuminating comments on the constitutional difficulties under the Government of India Act (1935) and the award of the Federal Court in the case of the Petrol Tax levied by the Government of the Central Provinces and Berar. A very interesting analysis of the motives behind sales taxes, the principal justification for which is productivity, reveals the fact that while Madras has resorted to sales taxation for financing prohibition, Bombay has adopted it for launching its rural development programme. It is noteworthy that the Government of Madras were the first to introduce a General Sales tax although selective sales taxes had been levied earlier by other provinces e.g., C. P. and Bombay.

In successive chapters the authors consider the nature and form of the General Sales tax in Madras, its administration, accounts and accounts checking, double taxation, tax evasion, shifting and incidence of the tax, effects on business turnover and middlemen and dislocation

of business. The effects of the sales tax on the business of co-operative stores has also received the attention of the authors who point out that though the turnover of consumers' co-operative societies has not been adversely affected, the same cannot be said about their development and put in a plea for a sympathetic consideration of their case by the Government. A number of appendices increases the utility of the publication. As the authors themselves point out in their introduction they could not undertake certain fields of enquiry such as the influence of the tax on prices, cost of living and wage level, with the hope of getting positive results, owing to the outbreak of the present war just a month prior to the coming into force of the Act. They have, however, noted the tendencies in these spheres. It should also be noted here that the enquiry into the working of the Sales tax was initiated only 10 months after its introduction, and as such the period was too short to permit of valid conclusion being drawn especially so far as long-range results are concerned. Nevertheless the enquiry has a great value, so far as the early reactions of the General Sales Tax and the difficulties in its administration are concerned. Besides the authors have been able to show that much of the public prejudice against the sales tax is unfounded and that its adverse reactions on consumers, wage earners, merchants and business are exaggerated. It is true that its main justification is productivity and it is a matter of little surprise that productivity, which covers a multitude of sins in taxation, has naturally enough appealed to the needy Provincial governments. It is, however, too early to say how far the sales taxes, general and selective, are likely to equalise the burden of taxation on the various sections of the community, or as is commonly claimed to shift the burden of taxation from country to towns. Nevertheless as the sales taxes bid fair to be a permanent and indispensable factor of Provincial tax systems, it behoves students of public finance dispassionately to study the new form of taxation in all its aspects with a view to gradually improving it.

It is from this point of view that the publication under review is most opportune and fulfils an urgent need of the hour. It is gratifying that the Economic Department of the Annamalai University under the guidance of Dr. B. V. Narayanaswamy Naidu has shown a rare and praise worthy initiative in launching upon investigations, involving field work, into some of the vital socio-economic problems that confront the country. This endeavour should encourage research work in a most fruitful channel and help to place applied economics on a scientific footing in this country.

S. G. BERI.

EXCHANGE LIST

- Hindustan Review.*
Half Yearly Journal of the Mysore University
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Philosophical Quarterly.
Reading University Gazette.
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The Punjab University Gazette.
Journal of the Bombay University.
Quarterly Journal of the Mythic Society.
Publications by the Oriental Library, Baroda.
Publications by Kungl. Universitetes Bibliotek, Uppsala, Sweden.
Publications by Tohoku Imperial University, Sendai, Japan.
Journal of the Madras University.
Bulletin de l'Ecole Francaise d'Extreme-Orient—
Hanoi (Indo-China).
Djwa—Java-Institute, Jogjakarta, Java.
Varendra Research Society, Rajshahi, Bengal—Annual Report and
Monographs
Quarterly Journal of the Kannada Literary Academy.
Journal of the Andhra Historical Research Society.
Indian Culture.
Scripta Mathematica.
Indian Historical Quarterly, Calcutta.
Journal of the Bombay Branch of the Royal Asiatic Society.
Review of Philosophy and Religion.
Publications of the U.S.S.R. Society for Cultural relations with
foreign countries, Russia.
Proceedings of the Durham Philosophical Society, Newcastle.
Collected papers from the Faculty of Science, Osaka.
Bulletin of the Calcutta Mathematical Society.
Science and Culture, Calcutta.
Indian Co-operative Review, Madras.
Epigraphica Indica.
Spolia Zeylanica.
Publications of the R. Swedish Academy of Sciences, Stockholm.
Bijdragen Tot De Taal, Land-En Volkenkunde Van Nederland
Indie-s-Gravenhage.
Monthly Weather Report, Poona.

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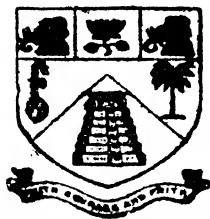
Scientific Reports of the Imperial Institute of Agricultural Research.
The Aryan Path.
Indiana.
Vishwa Vani—A journal of Indian Renaissance.
Journal of the Madras Geographical Association.
Man in India
The Poona Orientalist
Publications by the Industrial Intelligence and Research Bureau,
Simla
The Mathematics Teacher, New York.
Duke Mathematical Journal
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GENERAL EDITOR

Professor B. V. NARAYANASWAMY NAIDU

THE PROBLEM OF RURAL CREDIT IN THE MADRAS PRESIDENCY



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CHAPTER 1

GENERAL SURVEY

“Credit supports the borrower as the rope supports the hanged” remarked Louis XIV in the 17th century when the nobles through extravagance and the peasants through thriftlessness had fallen into the clutches of the usurers. The same statement is true of India at present. The ruinous rates of interest which the agriculturist has to pay to the moneylender have led the agriculturist from one evil to another so that he finds himself now in a mesh out of which it is very difficult to extricate himself. This thesis is an attempt to analyse the various causes of debts and the nature and volume of indebtedness, to examine the various credit agencies, chiefly co-operative credit, and to suggest certain remedies for the ills of the agriculturists.

In the preparation of the thesis care has been taken to study the condition of the villager by personal investigation and to examine some credit agencies, notably the village sowcars, and moneylenders, the co-operative societies and land mortgage banks. In India the absence of a well organised statistical bureau to give information about the condition of peasants is a great handicap to all research students who set themselves to the task of collecting data about indebtedness and the general economic condition of the peasants. At present there are certain statistical reports relating to agriculture published by the Central Government and the Provincial Governments, but they deal only with the cultivation of crops, live stock and implements, vital statistics, the incidence of land revenue assessment, the harvest prices of certain important crops, the average yield of the principal crops in each province and such other data. But the socio-economic problem, which is so wide in scope, has not much statistics, except some scanty information in the provincial departments of co-operation and education. It is only in the Punjab that the Board of Economic Enquiry has done valuable work in the matter of rural surveys. Outside Punjab, only stray attempts have been made in other Provinces to conduct economic survey of villages. The Madras University, under the guidance of Dr. Slater, undertook an economic survey of South

Indian villages. Since then attempts have been made occasionally to conduct investigations in the villages. In South India, at the Annamalai University, attempts have been made at various times to study the condition of Prohibition in the villages of the Salem District, and the extent of indebtedness and nature of rural credit in some villages of South Arcot District. In 1930 the Madras Banking Enquiry Committee conducted an investigation in two representative villages in each of three representative districts of the Presidency and published a valuable report. Later in 1935, Mr. Sathianathan investigated into the nature of agricultural indebtedness in 141 representative villages in the Madras Presidency and submitted a valuable Report on Agricultural Indebtedness in the Madras Presidency. In his survey of some of the villages of the South Arcot District the present writer followed certain principles and, when tabulating the results, found that the conclusions arrived at independently tallied with those of Mr. Sathianathan. For example, the nature and volume of indebtedness together with the economic condition of the people were studied in 150 families in some villages of the South Arcot District.* Care was taken to study the problem of indebtedness in the light of the recent Agriculturists' Relief Act. The results were analysed to find out the distribution of indebtedness. In preparing the tables the method adopted by Mr. Sathianathan was taken into consideration. Tables 1, 2, and 3 of Appendix II prepared out of the figures of village survey are a study of the distribution of indebtedness from the point of view of the family, the individual, an acre of land and assessment of a rupee in the case of labourers, registered land-holders paying land revenue between Re. 1 and Rs. 100 and registered land-holders paying land revenue above Rs. 100. The conclusion arrived at is that small and medium land-holders who pay an assessment of Re. 1 to Rs. 100 are the most hard hit of the agricultural classes. Mr. Sathianathan's conclusions for 564 families spread over the Presidency (Vide Appendix II—Table 7) are the same as the conclusions arrived at in the survey of some villages in the South Arcot District. It is only by checking results that definite conclusions could be arrived at. The nature of indebtedness in the case of mortgages, bonds and minor loans (Vide Appendix II—Tables 13, 14 & 15) were studied and conclusions of the usurious rates of interest were derived from those results. The

*Appendix I, Questionnaire used by the Investigator.

cultivation expenses were calculated in the case of wet and dry crops after questioning many agriculturists.

In the investigation of moneylenders and indigenous bankers, it was very difficult to get at any information from them and hence the help of a friend of the Chetti community had to be requisitioned to get answers to the questionnaire on indigenous banking. If the money lenders are licensed, then there will be no difficulty in getting information about the methods and practices of the big money lenders. In the case of indigenous bankers, the Income-Tax Department could be of some help but that Department is very reticent in furnishing information to research students.

The organised credit institutions—the Co-operative Societies and the land mortgage banks—could be easily studied with the help of the Department of Co-operation. The inspection reports and audit reports of the Co-operative Societies and land mortgage banks can be easily examined in the Office of the Registrar of Co-operative Societies. Nor is it difficult to study the sanctioning of a loan by the Central Land Mortgage Bank. There is no difficulty in getting accurate statistics in the case of these organized institutions. The report on the working of co-operative institutions and the annual report of the Central Land Mortgage Bank contain valuable statistics.

The Royal Commission on Agriculture says “In regard to indebtedness, particularly, we entirely agree with the recommendation of the Indian Economic Committee of 1925 that intensive enquiries should be made into the extent of indebtedness of various classes and tracts, the causes of indebtedness, the source of loans and the rates of interest, and that the results of these enquiries should be published.” The Commission believes that this field should be covered by private investigation and that statistics compiled should be in such a form as to permit comparisons to be made. It is, however, necessary that the quasi-official bodies of the type of the Punjab Board of Economic Enquiry and Universities with trained researchers assisted by Government financially and in other ways should conduct triennially or quinquennially economic investigations of all the villages in their areas. The results obtained by different agencies should be collated and published by Government. This will be useful not only in forming an idea of the growth of indebtedness and of the progress in the economic condition of the agriculturists, but will be the basis on which any legis-

lation affecting the agriculturists could be drafted. This will save a lot of time and energy for individual researches in finding out the volume of indebtedness in a certain area.

Here mention may be made of some of the difficulties faced by the investigators in their village surveys. The villagers are ignorant and illiterate, and their poverty is so great that if any person enquires into their assets and liabilities they at once take him for a potential Government officer enquiring into the condition of the people for a possible additional taxation. The investigator, in fact, has to visit the villages many days, become acquainted with the villagers, impress on them his mission and sympathise with them in their lot. When sympathetically treated, the villagers are very hospitable and, in fact, show an eagerness to furnish information. Unfortunately, they do not keep any farm accounts as in the West and even the figures regarding their debts are only rough figures. There are cases of debts contracted without any document to support the contract. If the peasants are constantly visited by the various agencies for figures and are taught the necessity for keeping accounts, they may have confidence in the investigators and realise the importance of such investigations.

After examining the nature, volume and causes of indebtedness in Chapter 3 and measures for the scaling down of debts in Chapter 4, an account is given in Chapter 5 of the business and methods of money-lenders. It has been stressed that regulation and licensing of money-lenders should be immediately brought about; for it would be a great help not only to the debtors but to the moneylenders as well; for they are sure to receive some concession from the Reserve Bank in the matter of rediscounting agricultural paper if they organise themselves. Chapter 6 deals at length with indigenous bankers and banking, the necessity for reviving hundis, which almost correspond to inland trade bills, and the reorganisation of indigenous bankers for receiving benefits from the Reserve Bank. Nidhis and chit funds, which originally sought to encourage co-operative endeavour and to stimulate thrift, if properly directed and controlled, are capable of becoming centres of great use to the needy majority of the Indian population. The sphere of the State in granting loans is extremely limited and it is pointed out how the state should confine itself to granting loans to the poor and in cases, where (due to the passing of a legislation of the nature of the Agriculturists' Relief Act,) there has been drastic curtailment of credit.

The strict enquiry into the repaying capacity of the agriculturist and the security he offers coupled with the complications of the taccavi manual rules makes it impossible for the agriculturist to resort to this type of loan often.

The centre of the problem of rural credit in the Madras Presidency is the reorganisation of the co-operative movement. The Royal Commission on Agriculture rightly remarked that 'if co-operation fails, there will fail the best hopes of rural India'. Much of the material for this chapter on Co-operation has been gathered by personal inspection of some of the co-operative credit societies in the South Arcot District, and by a study of the official papers in the Office of the Registrar of Co-operative Societies, Madras. The chapter begins with a brief description of the theory of co-operation and a historical survey of the progress of co-operation in the Madras Presidency. After a detailed examination of the constitution and management of the primary credit societies the financing institutions of primary credit societies are critically examined. It has been suggested that in the best interests of co-operative movement, the existing Central Banks should continue to function and should not be replaced either by the banking unions as suggested by the Reserve Bank or by the branches of the Provincial Co-operative Bank. The main reasons for the failure of the Co-operative Movement are the dearth of selfless men who could run the co-operative societies in the villages, the inefficiency of non-official supervision which is not connected with the audit by Government, the preparation of the important property statement on which credit is based by the borrowers, the abhorrence of unlimited liability, the execution of awards which converted overdue loans into owning of property by societies and banks and, above all, the negligence of the non-credit side of co-operation. It has been suggested that supervision should be vested in a disinterested, independent body or that government should take up supervision for such time as the societies are well developed. Unlimited liability should not be more a rule than an expediency. Careful checking of the property statement is very essential and the Registrar in a recent circular wants the statement to be checked thrice. The problem of overdues could be best tackled on the model of the Burmese scheme of hire purchase system. Above all, efforts should be made to introduce, in selected centres, multi-purpose societies which will develop the whole life of the villager and make him creditworthy.

Already there are some societies in Coimbatore and Salem and East Godavari which are capable of developing into multi-purpose societies.

Chapter 9 deals with the finance of Marketing and the movement of crops, the methods of marketing produce adopted in some foreign countries, notably the United States of America, the various principles, that regulate co-operative marketing, the special features of grain centres in Chidambaram Paddy Sales Society, the help that the Reserve Bank can give in the construction of warehouses, and the need for compelling of the members to sell through that Society where there is a Sale Society. A suggestion is made in this chapter for amending the Reserve Bank of India Act so as to give intermediate credit to the agriculturists.

Agriculture, like any other industry, requires long-term and short-term credit. Chapter 10 deals with the supply of long-term credit and the working of land mortgage banks in this Presidency. The procedure in regard to the sanction of a loan to a member of the primary society has been examined at some length. The controversy between Sinking Fund and the Debenture Redemption Fund has been examined and a suggestion is made for the starting of a special fund for meeting any loss on account of interest on investment of funds out of the Debenture Redemption Fund. This chapter also examines questions such as the delay in the grant of loans, the necessity for the extension of the period of the loan, the increase in the amount of the loan that could be granted by the Central Land Mortgage Bank, and the granting of loans by Central Land Mortgage Bank direct to individuals.

In conclusion, the co-ordination of credit and the attitude of the Reserve Bank towards co-operation and other agencies of credit have been discussed. Generally Central Banks maintain their assets in short maturity credit instruments which are considered to be easily marketable and promise to be self-liquidating at maturity. As the Central Banks accept even long dated government securities, they should not refuse to accept first class securities of any kind as sound assets. For these reasons central banks should maintain long dated agricultural bonds, the principal and interest of which are guaranteed by Government, as part of their assets. The Reserve Bank of India in their circulars to the co-operative associations gives only sound advice regarding their reorganisation and does not come forward with immediate help. While the co-operative banks should be run on business lines as the Commercial Banks are run, the present position of the

movement does not allow such strict principles to be adopted. It is only when the multi-purpose society is firmly established and the life of the villager is developed can there be a first class agricultural paper that can be rediscounted with the Reserve Bank easily. To develop the bill habit in the people, the Reserve Bank should utilise part of the profits from the note-issue department in the building of warehouses. A well developed co-operative movement will find it easy to conform to the regulations of the Reserve Bank in the matter of dealing with it directly. Regarding the help the Reserve Bank could give to Central Land Mortgage Bank, it is merely advice in the flotation of debentures. The Reserve Bank through its Agricultural Credit Department, which should be a co-ordinating authority for intermediate and long-term credit as in the Federal Farm Credit Administration of America, float the debentures of the Central Land Mortgage Banks. Section 18 of the Reserve Bank of India should be taken advantage of in dealing with individuals direct until individual producers organise themselves. The Bank should be authorized through its Agricultural Department to make advances for periods not less than nine months and not more than three years and should be empowered to borrow from the Government and float debentures. It is suggested that the Reserve Bank can easily invest its money in the bonds, not necessarily for five years, but for twelve months to be renewed at maturity every time. This practice is followed by the Savings Bank of Victoria which invests its funds in the Credit Foncier Department of Victoria, Australia. Regarding the allocation of the profits of the Agricultural Credit Department, the practice obtaining in the Rural Credit Department of the Commonwealth Bank of Australia should be followed.

It is suggested that credit by itself will not save the agriculturist. An intense propaganda by the Agricultural Department regarding the adoption of better instruments of cultivation coupled with the starting of multi-purpose societies will improve the return from land. While in the West mechanised farming has resulted in an appreciable increase in the yield from farms, every effort should be made in this country to develop joint farming and the use of machines in ploughing, sowing and harvesting. It has become a common objection in this country that the poor peasant with his small farms will not be able to introduce these improved methods in agriculture. If the peasant is to cultivate his lands individually there will be no salvation for him. He will be

continuing his old methods of agriculture but with very slight improvement effected by the Agricultural Department and will not find substantial improvement in his lot. Above all, what is needed is a stable price level for the produce of the farmer. Only a Central Bank can achieve this stable price level and such a Central Bank should be free from outside control in order that it may act in the best interests of the country. "To be dragged after the chariot wheel of the Bank of England and be dictated by the exigencies of the British Treasury seems indeed derogatory to the dignity of the country." Though at present we have a Reserve Bank which possesses the outwardly fine structure of an advanced type of central banking, it is, in its practical working, bereft of the life and spirit of a centralised banking system.

CHAPTER 2

RURAL ECONOMY IN THE MADRAS PRESIDENCY

A description of the physical features and resources of the Madras Presidency and an outline of the economic conditions provide the necessary background for a discussion of the problem of rural credit.

The Madras Presidency may be divided geographically into the eastern coast, the western coast and the table land. The two big mountain ranges—the Eastern and the Western Ghats run along the two coasts leaving between them and the sea narrow strips of land which are usually fertile. The three rivers, the Godavari, the Kistna and the Cauvery are the principal sources of irrigation in this Presidency.

Climate and Rainfall

The climate is generally hot and enervating and the mean temperature in Madras in May is about 89° and in January 76°. The hill tracts upto 4,000 feet are malarious, but the plains are comparatively free from serious malaria. In general, as the climate is warm and enervating, it induces lethargy and slackness in work. There are two monsoons in the year—the southwest monsoon which causes fairly heavy rainfall on the Western Coast in the districts of Malabar and South Kanara, and the north-east monsoon which causes heavy rainfall in the rest of the Presidency. The main river deltas are dependent on the south-west monsoon. Rains do not fall regularly year after year and the years of drought are often followed by floods which are devastating in their nature. The poor agriculturist who depends on rain suffers both from drought, when for want of rain his field dries up, and from floods, which destroy his valuable crops. It is quite usual for the Ceded Districts to face famine owing to drought. Famines in the rest of the Presidency are not common, though floods usually destroy property and cattle.

Tenures

The main forms of tenure are the ryotwari, the zamindari and the inam. The principal tenure in the Presidency is the ryotwari system of holding lands under which the ryot holds his land direct from the Government subject to the payment of land revenue. The powers

of alienating land are not restricted. The land revenue ordinarily remains fixed for a period of thirty years at the end of which period it can be decreased without limit or increased up to 18¾% on the recommendation of a special settlement officer. A ryot holding a land will be assessed whether he cultivates it or leaves it fallow, but is entitled to remissions of land revenue granted for drought or other satisfactory causes beyond the control of the ryot. If a certain piece of waste land is felt useless by a ryot, he can relinquish the land to Government and thus avoid paying land revenue. Table 33 of Appendix II gives the extent of the total area of ryotwari holdings, the assessment to land revenue, and the remissions for 1937-38. The extent of the dry and wet ryotwari holdings in this Presidency is 22,309,808 acres and 5,285,770 acres respectively and the assessment on these lands for the year 1937-'38 is Rs. 25,201,295 and Rs. 35,087,126 respectively. Second crop assessment and charge for water on government lands are Rs. 41,25,694. The total remission of land revenue for the year is Rs. 34,33,828.

Under the zamindari tenure, the Zamindar holds his estate under a 'sannad' by paying to the Government a fixed sum every year known as the 'peshkash.' There are occupancy tenants under the Zamindar who pay him a fixed rent. They have an occupancy right which is alienable without any restrictions. The ryot, however, can be evicted for non-payment of rent and for rendering the land unfit for cultivation. The number of acres owned by the Zamindars between 1937-38 was 13,242,230. The estimated revenue realised by the Zamindars was Rs. 2,02,35,089 and the peshkash payable to the Government was Rs. 46,79,511.* The relations between the Zamindar and his ryots are regulated by the provisions of the Estates Land Act.

There are inam holdings of various kinds, the main features of which are that land is held on a reduced or nominal assessment or quit rent on condition that certain religious, charitable and other services are rendered to the community and failure to do this will result in the resumption of the land or full assessment at the ryotwari rate.

The tenures in Malabar and South Kanara are different. In Malabar the Janmi holds the land of Government on payment of assessment. Under him the Kanamdar holds on a twelve years' lease and he has a right to renew on payment of a fee. When he leaves at the end of a

*Table 32—Appendix II.

period, he is entitled for compensation for all improvements he has effected. Both the Janmi and the Kanamdar also lease their lands to tenants for short periods. The Kanamdar's position and rights in land are little different from those of the Zamindari occupancy tenant. In South Kanara, the holding is held under the multi tenure and the mulawargadar holds land under government subject to payment of kist and has special claims on adjacent waste lands called kumaki right. There are two classes of tenants—the mulgenidars with occupancy rights and chalginedars or tenants-at-will.

Population

The population of the Madras Presidency according to the census of 1931 was 46,740,107. The population in 1921 was 42.32 millions. There was therefore an increase in population of 4.42 millions during the previous decade. Deducting the population of Ganjam and a portion of Vizagapatam from the 1931 figures, the population of the Province as now constituted according to the Census of 1931 is 44 millions. The estimated population in 1939 taking into consideration the decennial increase is 47.52 millions. It was calculated both in 1921 and 1931 census that the percentage of the population dependent upon agriculture was 71%. So we may roughly calculate that 34 millions of people in this Presidency in 1939 were supported by agriculture. According to the 1931 census the chief contributions to 1000 persons engaged in cultivation are—agricultural labourers 429, cultivating owners 390, cultivating tenants 120, non-cultivating owners 34, non-cultivating tenants 16.

Classification of Land and Area Irrigated

All lands in the Presidency are surveyed and divided and then again sub-divided as occasion arises for such sub-divisions. From the revenue point of view, cultivable lands are divided into dry and wet. On the wet lands irrigated crops are normally grown. Dry lands are generally on a higher level than wet lands and depend almost entirely upon rainfall for water. Wet rates are much higher than dry rates; but if water from a recognised source of irrigation is supplied to dry lands or for raising a second crop on wet lands, an extra water rate is charged. In the Western districts of Malabar and South Kanara there is an additional classification of lands known as garden in which coconut, arecanut and spices are grown.

Soil plays a great part in the productive capacity of land in the coastal plains. The laterite soil in the western plain reduces agricul-

tural productivity to an appreciable degree, though that portion of the Presidency enjoys the heaviest rainfall. In the eastern plain, particularly in the deltaic regions, the ferruginous red soils are found to be more productive than the laterite though they require continual watering. In this region the yield of crops depends on the efficient system of artificial irrigation. The Mettur Dam is the biggest achievement in the irrigation system of the province. The dry tracts of coastal plain where black soils are found conserve moisture during a long time and grow both summer and winter crops in spite of scanty rainfall. Cotton is generally grown in this region.

The rivers Godavari, Kistna, and Cauvery supply water to the three main deltaic areas ; and the districts to benefit by channels from these irrigation sources are East Godavari, West Godavari, Kistna, Guntur, Tanjore, Trichinopoly and South Arcot. The development of artificial irrigation schemes in the eastern plains is due not only to the insufficiency of rainfall but the necessity of continuous water supply to those regions. A splendid canal irrigation has been evolved in this region by controlling the deltaic rivers. The Cauvery-Mettur project which was completed at a cost of over 7 crores of rupees has brought under cultivation a vast dry area in the Tanjore District—the percentage of irrigated area rose up as high as 73% in the Tanjore delta—besides supplying more water to the old Cauvery delta. The South-West monsoon rarely fails on the West Coast. Lands to the West of the hills and those areas irrigated by rivers rising in the Nilgiris and the Western Ghats and the Travancore hills have an adequate water supply. This supplies Malabar and South Kanara districts, the Godavari, Kistna and Cauvery deltas, the Kurnool-Cuddapah canal, the Periyar system, and a number of minor irrigation sources. In the arid black soil region of the north, the very nature of the soil does not require any artificial irrigation to a great extent. A considerable area in South Madras, in Ganjam, Vizagapatam and Nellore is dependent upon irrigation by tanks and minor projects which rely on local rain or small rivers for water. The total area of the Province in 1937-38 was 79,802,543 acres. Of this, forest accounted for 16.5 per cent, lands not available for cultivation 18.3%, cultivable waste other than fallow 13.2%, current fallows 11.9%, and land brought under cultivation 40.1% or 32,031,679 acres. The total area irrigated in the Province excluding lands that were transferred to Orissa, was 8,745,444 acres. This formed only 27.3% of the net area sown in the province. Government canals, the most important source of irrigation, accounted for 42.9% of the total area irrigated, tank 36.5%, wells 15.5% private canals 1.9% and other sources, the remaining 3.2%.

Area Sown with Crops

The total area under all irrigated crops was 10,898,480 acres (1937-38) representing 29.5% of the total area under all crops. Of the total area, the area under cereals and pulses was 88.3%, oil-seeds 3.2%, cotton 2.7%, sugar 0.8% and other crops 5%. From the point of view of irrigation, the most important crop was paddy, which accounted for 78.2% of the total area under paddy. The percentages for other crops irrigated were 52.5 for ragi, 29.6 for indigo, 16.1 for gingelly, 11.6 for cotton (mainly Cambodia), 11.2 for cumbu, 8.7 for cholam and 4.7 for groundnut (mainly summer groundnut). The following table detailing area sown with crops will be interesting study.

Crops	Area in 1937-38 acres	Area in a year of normal season (Acres)	Percentage of the area under crop to the total area under all crops in 1937-38
Paddy ..	10,140,831	10,200,160	27.5
Cholam ..	4,599,444	4,632,090	12.5
Cumbu ..	2,571,988	2,712,090	7.0
Ragi ..	1,618,118	1,762,150	4.4
Korra ..	1,298,531	1,657,850	3.5
Varagu ..	934,055	1,075,830	2.5
Samai ..	518,948	589,940	1.4
Bengal Gram ..	52,240	92,090	0.1
Horse Gram ..	1,647,336	1,738,200	4.4
Sugarcane ..	97,965	115,600	0.5
Groundnut ..	4,657,596	3,075,230	12.6
Gingelly ..	794,875	764,060	2.1
Castor ..	246,718	293,550	0.7
Cotton ..	2,543,306	2,284,670	6.9
Indigo ..	23,167	35,440	0.1
Other non-food crops ..	1,374,861	1,303,450	3.7
Total of all food crops ..	26,623,219	27,792,580	72.1
Total of all non - food crops ..	10,294,717	8,398,520	27.9
Total area under crops	36,917,936	36,191,100	100

The variation in acreage of some important food and commercial crops taking the acreage in 1928-29 as 100 is given below.*

Year	Index number of acreage of				
	Cereals & Pulses	Cotton	Groundnut	Sugarcane	Tobacco
1928-29	100	100	100	100	100
1929-30	103·52	100·48	87·23	110·14	100·58
1930-31	103·29	82·82	97·08	128·97	95·07
1931-32	102·38	89·44	71·63	130·35	105·32
1932-33	102·62	79·10	95·58	135·75	100·35
1933-34	100·30	87·47	102·72	136·57	97·10
1934-35	99·64	93·48	63·90	140·68	114·52
1935-36	92·47	108·09	68·49	135·91	109·47
1936-37	92·70	100·90	94·99	134·33	99·19
1937-38	89·75	103·19	126·59	109·98	115·28

According to the indices, there was a gradual reduction in the area under cereals and pulses amounting to 10·25% in 1937-38 as compared with 1928-29, but an increase of 17·03% in the total acreage of the four important commercial crops. The area under food crops which was 76·1% in 1927-28 fell to 72·1% in 1937-38. Thus, in recent years there has been a gradual replacement of the areas under cereals and pulses by commercial crops. "This state of affairs is due partly to the impetus afforded by the comparatively more favourable prices which the commercial crops have in general commanded during the depression years in relation to prices of food crops and partly to the increasing ex-

*Economic resources of the Province of Madras and possibilities of their development by Mr. L. B. Green, Director of Industries and Commerce.

exploitation of commercial crops for industrial purposes consequent on the gradual development of industries in this Province."

The Madras Banking Enquiry Committee says "The three main features which affect the value of land are: its net yielding power, the regularity with which it will give that return and its saleability." If we exclude the estates on the hills under European management, the paddy lands in the deltas are the most valuable. Water supply is ensured by artificial canal irrigation and the silt carried down by rivers constantly supplies a modicum of fertility and the crop yielded gives a good return. Though the lankas or islands of silt in the Godavari are more fertile and though tobacco and garden crops grown on those lands are more valuable, the sale value of land is less in proportion to annual return, because they are submerged during high flood and washed away. Tea, coffee, and pepper, which certainly give per acre a better yield than most other dry crops, form only a small area of the Presidency. Because cultivation of these crops requires huge capital and the period of waiting for the crops for a return is four or five years, the Indian peasants refrain from growing such crops leaving such business to rich European planters. Hence these areas have only a low density of population in spite of fertility. The densely populated area is the paddy region in the coastal plains. Here too, there is a difference between the density of population in the canal irrigated tracts and that in the unirrigated tracts of river deltas. "In fact," as one writer says "agriculture is so much dominated by canal irrigation that the growth of population is limited by the possibilities of the extension of irrigation." For example, in the Kaveri delta, 'a comparative saturation of population has an obvious connection' with the fact that the Kaveri irrigation system is being utilised to its maximum." Besides, Coimbatore, Salem, Trichinopoly, Tinnevely and Madura—where there is a combination of food crops, viz., rice, with commercial crops, chiefly cotton—are prosperous areas. In South Kanara and Malabar, the well-watered valleys of the West Coast, a long agricultural season yields a rich variety of food crops and commercial crops. Rice and millets in the low lands, garden cultivation of spices, condiments, sugarcane, cardamom and betel in the area above the low lands and ragi cultivation on the dry fields above garden lands, in addition to the intensive cultivation of coconut yield a good income to the people and the density of population is very high.

Value of Crops and Their Present Price.

The Madras Banking Enquiry Committee Report has given figures regarding the normal yield in pounds per acre of various districts in this Presidency (supplied by the Agricultural Department based on the actuals over a number of years.) As there is no possibility of any appreciable increase in the yield within a decade, those figures are summarised here for the whole Presidency.

		Lbs. per acre Average for the Presidency
Paddy Irrigated	..	1,750
„ Unirrigated	..	1,144
Cholam Irrigated	..	1,454
„ Unirrigated	..	574
Cumbu Irrigated	..	1,209
„ Unirrigated	..	543
Ragi Irrigated	..	1,470
„ Unirrigated	..	707
Korra	..	400
Varagu	..	866
Samai	..	457
Maize	..	1,068
Bengal Gram	..	497
Horse Gram	..	193
Sugarcane	..	6,418
Groundnut	..	1,114
Gingelly	..	302
Castor	..	233
Cotton Irrigated	..	244
„ Unirrigated	..	73
Tobacco	..	1,175

There are variations in the yield of crops not only from one district to another but between one field and another.

The following table will give an idea of the value of some important crops. Wholesale prices of forecast crops reported by Deputy Directors of Agriculture as prevailing during the harvest months in 1937-38 *:—

*Season and Crop Report of the Madras Presidency 1937-'38.

District	Paddy (Madras measure)	Jaggery (candy of 500 lbs.)	Cotton (bales of 400 lbs.)	Groundnut (candy of 500 lbs.)
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Vizagapatam ..	0 1 11	21 0 0	110 9 0	17 8 0
East Godavari ..	0 1 3	25 0 0	96 15 0	..
West Godavari ..	0 1 3	25 0 0	96 15 0	..
Kistna ..	0 1 0	30 0 0	105 0 0	17 8 0
Guntur ..	0 1 0	32 0 0	97 8 0	18 0 0
Kurnool ..	0 1 2	40 0 0	80 0 0	13 2 0
Bellary ..	0 1 4	19 0 0	..	21 0 0
Anantapur ..	0 1 2	20 0 0	..	20 8 0
Cuddapah ..	0 1 2	17 14 0	57 2 0	17 14 0
Nellore ..	0 1 0	25 0 0	63 12 0	17 0 0
Chingleput ..	0 1 0	25 0 0	..	25 14 0
South Arcot ..	0 0 11	23 12 0	..	27 12 0
Chittoor ..	0 1 0	18 0 0	..	21 3 0
North Arcot ..	0 1 0	20 0 0	..	22 2 0
Salem ..	0 1 1	18 2 0	..	20 11 0
Coimbatore ..	0 1 4	33 8 0	..	16 10 0
Trichinopoly ..	0 1 3	36 8 0	91 14 0	12 7 0
Tanjore ..	0 1 0	28 0 0	..	25 8 0
Madura ..	0 1 3	38 0 0	..	13 10 0
Ramnad ..	..	..	..	..
Tinnevelly ..	0 0 11	35 0 0	..	16 0 0
Malabar ..	0 1 2	47 8 0	..	..
South Kanara ..	0 1 3	40 0 0	..	..

Holdings

The highest total number of joint and single pattas for fasli 1340 are those yielding a land revenue of above Re. 1 and not less than Rs. 10* (Figures regarding classification of pattas are not published in the recent reports of Land Revenue Settlement). The number of pattas which yield a land revenue above Rs. 50 is not large. A revenue holding may consist of a single field or sub-division or a number of fields and sub-divisions in the same village. If a person holds land singly, a single patta is given to him and if he holds a land jointly, as is generally the case in South India, joint pattas are issued to the ryots. Under joint patta where names change often, it is necessary to have the pattas trans-

*Vide Table 17—Appendix II.

ferred in the register. Of late, joint pattas are on the decrease and Mr. Sathyanathan thinks that such decrease is "a sign partly of the disintegration of the joint family or the growing urge for partition." In the survey conducted in the Cuddalore Taluk, it was observed in many cases that the smallest piece of holding was $\frac{1}{16}$ acre or 0.06 acre. To take only one instance, a peasant who was owning lands to the extent of 3 acres dry and $\frac{1}{2}$ acre wet had his land distributed in fifteen places and the longest distance from one piece to another was more than half mile. These small holdings are a big obstacle to land improvement and the introduction of mechanised farming. It is on the partition of lands that the villagers fight and go to the highest tribunal for judgment.

Cultivation Methods

The yield of the crop depends on methods of cultivation and the latter are partly influenced by the system of holdings. Holdings in India being very small, no attempt has been made to introduce mechanised farming. Even the big landholders in South India follow the same method of cultivation as the small holder. The wooden plough, the sickle and the spade are all the instruments used in cultivation and with the employment of men and cattle, the lands are ploughed, sowed and crops are harvested. The continuation of this age-long custom has not improved the yield of the land. In fact, the yield of land is deteriorating, because of the inefficient methods of cultivation. Local supplies of manure are defective. Manure crops, e.g., sunn-hemp, are grown in certain places, green leaves are used in some places and oil cakes in some other districts. In regard to paddy, considerable variations in seedlings are employed and this depends largely on the transplantation of seedlings in large bunches or singly. The rotation of crops, so important in other countries, is practised only to a limited extent in this Presidency. For example, in the Coimbatore District, cotton alternates with cholam. In the dry taluks of the Kistna District, there prevails the custom of growing five crops together on one bit of land with the hope that at least one will succeed. But this is not by any means rotation of crops; it only reveals the extremely precarious condition of the Indian ryot.

Cultivation expenses for an acre of dry and wet land collected from the survey in the Cuddalore Taluk are given in Appendix II—Table 62. After meeting cultivation expenses, paying land revenue, etc., the net income from land will be less than half the value of crops. This is the case in a very good season.

Social and Religious

The economic position of the agriculturist is affected to a great extent by the social and religious aspect of the farmer's life. Caste and racial sub-divisions, which are fast disappearing in the towns, but which still affect the condition of life in most villages, impair efficiency and perpetuate economic differences. The lower strata of society still cling to age-long customs and superstition. The influence of towns has not affected them. Religion has become almost "a conglomeration of superstitious beliefs which have become a serious economic handicap." For example, even when money can be obtained only at usurious rates, there is much extravagance on religious feasts and on the occasions of births, marriages and funerals. For the improvement of village life, superstitious beliefs should be eradicated by constant propaganda and education.

CHAPTER 3

PRINCIPLES OF AGRICULTURAL CREDIT IN INDIA

Should Agriculturists Borrow ?

M. T. Herrick said "In a financial sense, credit is that confidence reposed in a person which enables him to obtain from another the temporary use of a thing of value. It may be accorded on the security of real estate, personal property, or mere character ; and so is classified in three general forms deriving their names from the kind of security taken." The bulk of world's business is done on credit, that is, on the trust reposed by one person in another. Nations and public corporations also borrow on the credit they command and at present they are bonded beyond thought of redemption. Industrial companies and commercial houses usually operate on the large credit they receive. Agriculturists also must and will borrow to carry on their operations. This necessity for the agriculturist to borrow more than in any other industry is that an agriculturist's capital is locked up in land and stock and must be temporarily mobilised. For these reasons credit can neither be considered objectionable nor can it be considered a sign of weakness. It is a necessity and "borrowing and indebtedness are useful or dangerous in proportion not merely to the use made of the sums borrowed, but in proportion as they are the result of a prudential foresight or of necessity extraneous to the demands of agriculture."

The True Postulates of Credit

In his monumental report on the possibility of introducing Land and Agricultural Banks in the Madras Presidency (1895), Nicholson gives a brilliant analysis of the conditions on which credit can be most profitably obtained by agriculturists. According to Nicholson, the true postulates of credit are "absolute proximity of lender and borrower, complete security to the lender as regards the title of the property offered, its freedom from prior encumbrances, the recovery of his capital and interest at due date and in convenient amounts, with facilities for enforcing such recovery in case of arrears; thorough safety and facility to the borrower, in his ability to obtain cheap loans, at any time, to an amount

proportionate to the security he can offer, and upon terms which will be so equitable in themselves, so convenient as regards repayment, so free from all risk of deliberate entanglement, so based upon published rule, so devoid of any tendency to discount necessity or urgency otherwise than by an equitable insurance, that he can calculate on repaying the full fruit of his prudence, and find, in credit, a powerful auxiliary to his productive powers and stability." The terms of repayment of a loan must be so arranged that the agriculturist can repay the loan from the profits obtained from the transaction for which it was obtained. Accordingly an improvement to land must be repayable by instalments over a long period. Advances for raising crops or for the maintenance of the agriculturist's family during harvest may be repayable in a lump sum or in instalments according to convenience. Examining the position of the individual moneylender on these postulates, Nicholson concludes that the credit given by him is absolutely defective except for the fact that he fulfils the single postulate of proximity. Trading as he does on private capital, it is impossible for him to satisfy the demands for loans at any time and to any amount. He cannot lock up his capital and draw his money in instalments. The moneylender cannot satisfy the two other postulates of complete security to the lender and thorough safety and facility to the borrower. Only organized credit institutions can supply cheap and facile credit. But as the indebtedness of the agriculturist is due to causes outside the demands of agriculture, and is not due merely to the action of the usurer, no mere change in the machinery of credit can be a radical cure. So Nicholson says that the credit which the agriculturist gets "must indeed be cheap and facile, in that it shall be ever at hand, but it must be credit which shall only be so obtainable that the act and effort of obtaining it shall educate, discipline and guide the borrower; it should be granted only to those who have learnt to think, to plan, to save; the method of providing it must teach the lessons of selfhelp, and mutual aid, and suggest the extension of those lessons to matters outside of mere credit; it must be safe not merely in eliminating the dangers of usury but in being controlled, needful and productive." These postulates of true credit laid down by Nicholson can only be fulfilled by the Co-operative village banks.

Credit Needs of Agriculture

According to the nature and purpose for which the different kinds of credit are employed, the credit needs of the agriculturist may be broadly classified into short term, intermediate and long term. Short

term credits are for seasonal agricultural operations which include not only the expenses of raising a crop and storing and marketing it but the maintenance of the ryot and his family, periodical payments of land revenue and other public charges connected with land. The principle that should regulate short term credits is that agriculturists should use short term credit for productive purposes only and should not borrow, unless by doing so they can increase their profits. Limiting borrowing to the necessities of production is one of the surest methods of avoiding extravagant expenditure and of accumulating a reserve for future needs. It is only short term credit that commercial banks are generally willing to supply, because such credits are expected to liquidate within a short duration. It is considered that, in the supply of short term credit, there is no essential difference between agricultural and industrial production. It is generally recognised in the West that agricultural paper is as self liquidating as any kind of commercial paper, the only difference being that agricultural paper takes a long time for maturing, usually about nine months. The reason is, the turnover in agriculture is much slower than in industry. Hence the period for which the agricultural paper is discounted should not exceed the length of time required to complete the operations for which the loan is made.

Peculiar Features of Indian Agriculture

The main difference between the operations in agriculture and those in industry in India is that while production in industry can be correctly gauged, that in agriculture cannot be gauged. In the West, the high mechanised farm and other improvements in agriculture have made it possible to determine the volume and quality of crops to a certain extent. The only control that man has not got over nature is the seasonal variations, the wide spread drought and floods. This factor alone is primarily responsible in the Western countries for the difference between agricultural production and industrial production. In the Indian system of agriculture "the units of production are essentially a one-man concern and the credit available for the concern is limited to the credit of one man or one family." Small scale farming renders farming more helpless than any other form of industry. The impossibility for a commercial bank of making advances to agriculture is described by the Central Banking Enquiry Committee: "effectively to finance the cultivators of a single district or even of a taluka, the resources of a commercial bank have to be dis-

tributed amongst thousands of small borrowers. To back up a banking credit his crops or live stock or dairy produce are comparatively more liquid and more easily realisable assets of the cultivator. Even these are precarious forms of security owing to the physical risks, such as floods, failure of monsoon, pestilence among livestock and so forth to which production is subject. The most honest and thrifty farmer cannot under such contingencies always pay back punctually his debt; and if agricultural credit should have beneficial effects, the creditor should postpone his demand until the effects of a devastating visitation are over or a more favourable season comes round. Again if the credit, of a substantial sum (advanced to a farmer) cannot wholly be recovered from a year's harvest without starving his other economic needs, his limited repaying capacity necessitates the recovery of the same in small dribblets over a number of years, out of the margin of the profits of his farming. The rapid circulation of money being essential to the success of a commercial bank and the bulk of its working capital being derived from short-term deposits or call money, a commercial bank cannot, generally speaking, obviously afford to postpone its recoveries or tie up its resources to accommodate the farmers' needs." Hence short term agricultural credit in India is to be financed by a special institution—the Co-operative Society—which will take into consideration the peculiar nature of farming.

Intermediate and Long-term Credit

These problems cannot be handled either by the commercial banks or the Co-operative societies in India. At present in India Co-operative societies afford intermediate credit to farmers, but when they come into contact with the Reserve Bank for financial accommodation they will find that this kind of business is not suited to them. Intermediate credit is for the purpose of improving stock or the agriculturists' holding and the loans required cannot, as a rule, be repaid within the maximum period usually allowed for a short term loan which may require a period of one to three years. Special institutions for intermediate loans on the model of the Federal Farm Credit Administration are desirable.

The bulk of agricultural credit always consists of long-term loans for fixed capital which is used for redemption of debts, reclamation of land, purchase of new lands or expensive implements like pumping installations. The agriculturist cannot expect to repay these loans in

a lump at a very short period. The period of repayments is spread over a long period and the instalments are carefully fixed, taking into consideration the net income from the land and the repaying capacity of the agriculturist. America and England have well-developed institutions for this important form of credit. In India the establishment of land mortgage banks is a correct move to finance the long term requirements of agriculture.

Will facile credit alone solve the problem of the agriculturist? This leads to a further question. When will credit be facile and cheap to the agriculturist? A borrower who is capable of repaying a loan punctually, and whose creditworthiness is very high can alone expect to get credit cheaply from any credit agency. In other words, cheap and facile credit can only exist when the life of the agriculturist as a whole improves. That is mainly the reason why in the West the rate of interest to agriculturists through organized credit institutions is cheap, while in India it is high. Thus we are led into a vicious circle of cheap, and facile credit and agricultural improvement following each other. Both are of mutual causation. To bring about this improvement in the life of the agriculturist and to make him creditworthy and capable of receiving facile credit, the co-operative multi-purpose society should be started in the villages and vigorously worked. As the Committees on Agricultural Credit and Agricultural Tribunal of Investigation in England have observed "Credit alone cannot convert an unprofitable industry into a profitable one. . . . Credit may be an important factor in the cost of production in individual cases, but it is mainly in other directions that a solution must be sought of the difficult problem of how agriculture generally can be made to pay."

CHAPTER 4

INDEBTEDNESS—VOLUME, DISTRIBUTION AND CAUSES

Sources of Information

It is impossible for a research student working single handed to assess precisely the volume of indebtedness. In fact, the Madras Banking Enquiry Committee and Mr. Satyanadhan, Special Officer appointed by the Government of Madras to go into the causes and volume of indebtedness and to suggest remedies, were not able to arrive at any correct figures ; at best their figures were only approximate. The reason is the lack of statistics in India. In villages people are stupendously ignorant of the value of statistics. The difficulty I experienced in collecting accurate figures of the debts of the peasants (during the surveys conducted by me in some of the villages of the South Arcot District) is enough to show how ignorant and illiterate the peasant is. He is quite detached from the outside world and, if he finds a stranger enquiring into his personal affairs, he shrinks as a snail encountering an obstacle would shrink into its shell. The statistics relating to agriculture published by the Government of India and the Provincial Governments deal only with cultivation and crops, livestock and implements, vital statistics, the incidence of land revenue assessment, the harvest prices of certain important crops, the average yield of the principal crops in each province and such other economic data. But no authentic information can be had of such socio-economic problems as indebtedness, mortgage debt and fragmentation of holdings. These problems have been left purely to private bodies to enquire into. The Royal Commission on Agriculture says, " we think, however, that this is eminently a field for investigation by private agency rather than by government departments. It is very necessary, however, that private investigations should be conducted on some general plan so that the statistics compiled shall be in such a form as will permit comparisons to be made." Semi-official bodies of the type of the Punjab Board of Economic Enquiry and Universities with trained researchers assisted by government financially and otherwise should conduct economic surveys of all the villages once in three or five years and the results arrived at should be collated and published in the form of reports triennially or

quingennially by the Director General of Commercial Intelligence and Statistics. This will save a lot of time and energy in finding out the volume of indebtedness. Moreover, where the peasants know that the collection of statistics of indebtedness has become periodical, they will get to have confidence in the investigators and will begin to give a true picture of their indebtedness.

The sources from which information and conclusions were arrived at are :—

- (1) Sir Frederick Nicholson's Report on Land and Agricultural Banks in the Madras Presidency.
- (2) The Madras Banking Enquiry Committee Report, the Evidence Reports and the Investigators' Report.
- (3) Report on Agricultural Indebtedness—W. R. S. Satyanadhan.
- (4) Economic Survey conducted by the writer in some of the villages of the South Arcot District, in May, 1938.
- (5) Rural Indebtedness—An Enquiry by Dr. B. V. Narayanaswamy and V. Venkataraman.
- (6) Statement of Mortgage and pronote debts registered by the Registration Department.
- (7) Information gathered from the Office of the Registrar of Co-operative Societies, Madras.
- (8) The Royal Commission on Agriculture in India, 1928.

The central fact in Indian rural economy is the appalling poverty and the grinding need of the population; and the extent of indebtedness is the index of the alarming condition to which poverty has reached. It is not an exaggerated remark of the Royal Commission on Agriculture when it said, "In India agriculture is, with most cultivators, more a mode of living than a business." The average annual income of the agriculturist has been computed at Rs. 15 per head by Mr. Satyanadhan. (Even these figures are high as will be proved later on). Within this meagre income the Indian agriculturist has to find the food, clothing and sundries required for his family. In spite of his inability to pursue agriculture as a profitable business, the agriculturist will not abandon his calling out of his own free will; for the abandonment of the farm means the abandonment of the home. Forced to live a squalid life with his poor income, which has been made poorer

by the severe depression in the prices of agricultural commodities, he is groaning under a heavy load of debt which is staggering. No real progress is possible, no new policy of planned economy for the development of the country can be successfully launched, unless the agriculturists, the custodian of our national wealth, who form 71% of the population are relieved of their distress by removing the ever crushing burden of indebtedness and by devising means to increase their income and, consequently, their purchasing power.

Volume of Indebtedness : Mortgage Debts

It is necessary, therefore, to arrive at an approximate volume of indebtedness of the Presidency. Sir Frederick Nicholson, who in 1894 estimated the total indebtedness of the Presidency, arrived at a rough figure of Rs. 45 crores. Nicholson followed a curious method of estimating the total indebtedness. "If the average duration of mortgages with possession taken as one lakh, be taken as five years, and that of simple mortgages taken as two lakhs as two years, the average duration of all mortgages will be about three years." It appears that Nicholson has taken for granted that the average duration of mortgages with possession was five years and without possession two years. Nowhere he has said how he arrived at these figures. In a statement in the Appendix of the Report he has, however, shown that the average duration of simple mortgages was a little above 2·3 years and the average duration for mortgages with possession, about 6·25 years. So actually the average duration of all mortgages comes to 4·25 years. To find out the total registered mortgage debt of the Presidency, Nicholson said that the mortgage debt of the year should be multiplied by 3. Multiplying the value of mortgages (Rs. 6½ crores) by 3 he put the total mortgage debt of the Presidency at nearly 20 crores. The same method of estimating the total mortgage indebtedness was adopted by the Madras Banking Enquiry Committee. The number and value of simple and usufructuary mortgages for periods varying from one year and less to fifteen years and above were collected for six years from 1924 to 1929 from the offices of the Sub-Registrars of Srimushnam and Ellore. As shown in the table below, two figures were taken, the maximum and the minimum under each section and the number of mortgages (the average for six years) was multiplied by the minimum and maximum period in each section. Finally the average period is obtained by dividing the average of the total maximum and minimum number.

**STATEMENT SHOWING THE AVERAGE DURATION OF MORTGAGES EXECUTED IN 1924 TO 1929 IN THIRTY VILLAGES
INCLUDED IN THE SRIMUSHNAM SUB-REGISTRAR'S JURISDICTION.**

(Madras Banking Enquiry Committee Report, p. 38)

Nature of the deed	1	2	Up to 1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years	No. term	Total of columns 3-10	Average mean duration
1			3	4	5	6	7	8	9	10	11	12	13		
Simple mortgages	Average of six years		16	16	32	5	13	1	4	5	149	92			
	Minimum number		8	16	64	15	52	5	24	45	298	229			2-95 Years
	Maximum number		16	32	96	20	65	6	28	50	447	313			
Usufructuary mortgages	Average of six years		9	14	30	5	5	1	1	..	89	65			
	Minimum number		4	14	60	15	20	5	6	..	178	124			2-37 Years
	Maximum number		9	28	90	20	25	6	7	..	267	185			

Average stated duration of all mortgages, 2-75 Years.

The one peculiar difference between the results arrived at by the Banking Enquiry Committee and by Nicholson is this. While the average duration according to Nicholson is about 2·3 years for simple mortgages and 6·25 years for mortgages with possession there is no such marked difference in the results obtained by the Madras Banking Enquiry Committee. Statistics collected from the Sub-Registrar's Office, Srimushnam show the average mean duration for simple mortgages to be 2·95 years and for usufructuary mortgages 2·37 years. In the case of Ellore the corresponding figures are 2·93 and 3·81.

Another method adopted by the Madras Banking Enquiry Committee to find out the average duration of a document is the collection of statistics from some of the offices of the Sub-Registrars regarding the supersession of mortgage documents. The conclusions arrived at are as follows :—

		No. of Documents.	Years
Nellore	..	96	357
	Average	1	3·72
Sulurpet	..	30	106
	Average	1	3·53
Ellore	..	38	219
	Average	1	3·95

The Committee have not examined the average period of mortgages which were paid off either at the time of maturity or before maturity. Renewals of documents take place only when interest falls into arrears or when a fresh loan is raised. Only a fraction of the mortgages are actually renewed while in the majority of cases the mortgages remain unredeemed for many years and end in a sale of property. So it is impossible to find out the mortgage debt during a certain period with the help of the statistics supplied by the Registration Department, for the figures for a particular year refer only to the mortgages registered in that year.

Having gone through two tests to arrive at the average duration of documents—3 years—the Committee multiply by the average period of 3 years, the amount of Rs. 20 crores, the aggregate value of mortgages, which have been accidentally constant for ten years 1919 to 1928. Statistics collected from the Registration Department from 1929 to 1938 (vide Appendix II, Tables 23 to 30) tell a different tale. There has been a continuous fall since 1929 in the aggregate value of mortgages:—

Year.	Instruments of Mortgages.	
	No.	Value.
1928	510,974	19,87,43,259
1929	485,850	19,65,66,096
1930	444,182	18,93,04,547
1931	389,487	17,69,89,913
1932	418,235	17,68,50,031
1933	388,582	15,84,35,523
1934	391,527	15,08,39,032
1935	397,699	14,72,78,474
1936	389,180	14,07,54,775
1937	409,725	13,95,23,978
1938	347,656	12,23,43,872

If the value of mortgages in anyone year is multiplied by 3, it will not give the total mortgages then existing in the Presidency. Moreover, the great bulk of mortgages are of unspecified terms. Mr. W. R. S. Satyanathan classified mortgages with and without possession and bonds registered, according to periods of loans taking two typical villages in each district of the Madras Presidency except Malabar and South Kanara.* In the case of mortgages without possession and bonds, the no-term loans are the most popular, and in the case of mortgages with possession the most popular term of loans is between 1 year to three years. Next comes the period of loan above three years. In the survey conducted by me in some of the villages of the Cuddalore Taluk, an opportunity was afforded to study the period of loans in the

* Vide Appendix II—Table 16.

case of 150 indebted families. (Vide Appendix II, Tables 13, 14 and 15). The conclusion arrived at is as follows :—

	No. of trans- actions	Period of Loans.		
		One year and below.	Above one but not more than 3 years.	Above three years.
Usufructuary Mortgage:	14	2	4	8
Simple Mortgages	17	3	3	11
Bonds	55	12	13	30

So the principle enunciated both by Nicholson and the Madras Banking Enquiry Committee does not stand practical checking.

Moreover, most mortgages run for a longer period than specified in the document. So long as the mortgage amount remains unpaid, land will remain in the possession of the mortgagee. In the survey conducted in the villages of the Cuddalore Taluk the major portion of the mortgages were executed in favour of the ryot moneylender living in the villages or in the neighbouring villages. These ryot moneylenders do not show any hurry to have the mortgage terminated for various reasons, the most important being the appropriation of land from the ryot after a long period. So even if the average duration of the specific period of mortgages is three years, a correct estimate of the total mortgages cannot be arrived at by adding up the mortgages of the three previous years.

To find out the mortgage indebtedness of the Presidency, typical villages in the province should be selected and detailed enquiries in the history of the mortgages should be carried out. The results arrived at by me in a survey conducted in some of the villages of the Cuddalore Taluk, South Arcot District, can only serve as a model for others to work on this line, but cannot be considered as typical of the whole Presidency.

Unsecured Debts

Nicholson said that the bonds registered were almost nothing and concluded that the immense mass of debt on pledge and personal

credit could not be correctly ascertained. He, however, estimated that grain and non-mortgage cash debts together probably amounted to twenty-five crores. He has concluded roughly from the grain debts prevalent in Anantapur District that they should amount to Rs. 10 crores. To this he added a non-mortgage cash debt (Rs. 4 per head is the figure given in his report) of Rs. 15 crores. The total unsecured debts both grain and non-mortgage cash debts amounted to Rs. 25 crores. Adding the mofussil mortgages of 20 crores to this amount, he concluded that at the beginning of any harvest, the mofussil population was in debt to an amount of Rs. 45 crores. It must be said that the unsecured debts arrived at by Nicholson are but very rough figures.

The Madras Banking Enquiry Committee, in order to find out the existing value of bonds registered at a particular time, doubled one year's registration to represent the debts on this account outstanding at any one time. The value of bonds registered annually went up from 160 lakhs in 1919 to 3½ crores in 1928. The reason for doubling the year's registration, according to the committee, is due to the fact that fresh bonds are replaced more frequently than mortgages. On this basis, the sum of Rs. 7 crores was arrived at as the outstanding value of registered debt at any one time. The estimates arrived at on this basis are too rough.

The Banking Enquiry Committee came to the conclusion that Rs. 67 crores were the outstanding registered debt. The Investigators' Report showed that the percentage of secured debts to the total varied from 29% to 83% in the twelve villages investigated. So the Committee assumed that the secured debts should be about half of the total debt when the latter was at its maximum just before the harvest (i.e., November and December). So the total debt of the Presidency was 134 crores and if, at the rate of 12%, interest was calculated on this amount and added to the principal, the total debts in 1929 would have been Rs. 150 crores.

Another method adopted by the Banking Enquiry Committee to find out the volume of indebtedness is the calculation of the money borrowed for cultivation expenses. The general cultivation expenses for wet and dry lands were taken to be Rs. 74 crores and, as some would not borrow, the figure was adjusted with the figure of short-term loans (67 crores). But it must be noted that cultivation expenses vary from district to district and depend upon individuals who may be either hardwork-

ing or lazy. So the figures arrived at cannot be very accurate. A more accurate method of assessing the short term borrowings would have been to find out, in the 66 villages investigated by Tahsildars and the 12 villages by special investigators, the proportion of those who did not require credit for cultivation and domestic expenses and the average cultivation expenses incurred in cultivating some of the chief crops of the Presidency. On this basis alone the amount of short term borrowings should have been worked out.

Total Debt Arrived at by Actual Investigation

The only accurate method of finding out the volume of debts of the Presidency is through the investigation of typical and representative villages in the Presidency. The Madras Banking Enquiry Committee, through the Tahsildars, enquired into 66 villages and with special investigators surveyed 12 villages (three each in the Districts of East Godavary, Bellary, Madura and Coimbatore). The Committee calculated debts on three bases—Debt per head, debt per acre and debt per rupee of assessment.

Debt on Population Basis

According to the figures supplied by Tahsildars on the basis of their investigation in the months of December and January when debt was at its maximum, the average debt per head was Rs. 38. The Committee concluded that for 42 million it would give a total debt of nearly Rs. 160 crores. The Madras Banking Enquiry Committee chose the census figure of the population for 1921. But actually the population increased to 46.7 millions in 1931. Hence the total debt should be more than Rs. 175 crores. The figures arrived at by the special investigators are Rs. 61 per head and 256 crores, total.

Mr. W. R. S. Satyanathan, who enquired into 92,366 families in 141 representative villages in the year 1935, calculated the debt per head to be Rs. 38. He increased this figure by 10% thus allowing for the absentee landlords who were not enquired in the villages. But he does not say how he arrived at this 10%. So the debt per head according to Mr. Satyanathan was Rs. 42 in 1935 and the total debt was Rs. 42×48.57 million (allowance has been made for the increase in population) or Rs. 204 crores.

The survey of 150 families carried out by me in the villages of the Cuddalore Taluk has given the following results:—

Total debts of 150 families	..	Rs.	74,843
Debt per head	..	„	87·6
Debt per acre	..	„	61·6
Debt per rupee of assessment	..	„	16·9

With these figures as the basis, one cannot arrive at the total debts of the Presidency, for the results arrived at will be distorted. The reason is the figures collected represent only a particular area in the South Arcot District. Conditions may differ in the other districts.

On Acreage Basis

According to the Tahsildar's report of the Banking Enquiry Committee, debt per acre amounted to Rs. 48 and for 26,282,000 acres (ryotwari holdings) amounted to Rs. 126 crores. The Committee did not calculate the rough figure of 5 million acres held by occupancy tenants. If this figure is taken into account the total debt will amount to Rs. 144 crores. Debt per acre according to special investigators is Rs. 53 and total debt amounts to Rs. 164 crores.

Debt per acre according to Mr. Satyanathan is Rs. 63 and for the Presidency as a whole Rs. 207 crores.

On Assessment Basis

The Madras Banking Enquiry Committee arrive at Rs. 19 as the debt per rupee of assessment. The assessment on ryotwari lands and the rental on zamindari land yield a debt of Rs. 153 crores.

Debt per rupee of assessment or rent calculated by Mr. Satyanathan in 1935 is Rs. 21. The total debt on assessment basis amounts to Rs. 193 crores.

While the results calculated by the three methods on the investigations of Mr. Satyanathan almost agree, those of the Madras Banking Enquiry Committee are more divergent. The only reason that can be attributed to this difference is that the investigations of Mr. Satyanathan cover a large number of families in 141 villages, while the Madras Banking Enquiry Committee enquired into 66 villages through the Tahsildars and in 12 villages through the special investigators. The total estimated debts by Mr. Satyanathan should be taken as almost correct.

Nature of Security

Mr. Sathyanathan's enquiry in 141 villages shows that the nature of security of the debts was in the following proportion:—

Mortgage debt	..	47%	83,65,381
Unsecured debt	..	50%	89,81,796
Debt on the security of movables.		3%	5,38,489
		<hr/>	<hr/>
		100	178,85,666

On the basis of the survey conducted in the Cuddalore Taluk, a statement of debts was prepared (vide Appendix II—Tables 13 to 15) for 50 families out of a total of 150 families examined. The results of the survey, if compared with the nature of security of Mr. Sathyanathan's survey, are remarkable—

Mortgage debt	..	14222	47·5%
Unsecured debts (including bonds and hand loans)	..	14218	47·5%
Debts on security of movables (mostly with saukhars)	..	1466	5%
		<hr/>	<hr/>
		29906	100

For the whole Presidency mortgage debts amount to 95 crores. If the method adopted by the Banking Enquiry Committee is used in finding out the total mortgage debt outstanding in 1933 and 1938, the amount would have been 48 crores and 36 crores respectively. Though the registration of mortgages in each year may be falling owing to depression and fall in prices, indebtedness should have increased; for the agriculturist must have found himself unable to redeem his mortgages, as is evident from the survey conducted in the Cuddalore Taluk. A mortgage debt of 48 crores in 1933 and 36 crores in 1938 based on the principle enunciated by the Madras Banking Enquiry Committee is misleading. In fact, the mortgage debt in 1938 must have increased over the year 1933, because the total debt of the Presidency has increased. The statistics collected from the Registration Department (appended) is an index only of the credit available on mortgages in each year. The outstanding mortgage debts cannot be calculated. As Mr. Sathyanathan

says "It is most difficult, if not impossible, to arrive at the proper multiple. The slightest mistake in the multiple will vitiate total mortgage debt enormously." As it is difficult to arrive at the outstanding mortgage debts from the aggregate value of mortgages in a year, so it is difficult to get a correct value of bonds and unsecured debts. While actually the unsecured debts in 1935 were 100 crores, the bonds registered during that year amounted to nearly Rs. 99 lakhs. This only shows that as in the case of mortgages, in the case of bond, also the agriculturist has not paid for a long time. According to the survey in Cuddalore Taluk the period of bonds and promotes was found to be long enough to warrant this conclusion, and, in many cases, bonds were overdue for a long time.

Distribution of Indebtedness

Examination of 150 families in some of the villages of the Cuddalore Taluk throws light on the distribution of indebtedness on various classes of land-holders and labourers.* The registered landholders are divided into two classes—those who pay an assessment of Re. 1 to Rs. 100 and those who pay above Rs. 100. Of the 150 families, the number of labourers examined is 37, registered landholders who pay an assessment of Re. 1 but not above Rs. 100 is 100; registered landholders who pay an assessment of above Rs. 100 is 13. While the total debts of the class of 100 registered holders is Rs. 50,886, the total debt for the 13 rich landholders is Rs. 20,505. Debt per head in the former case is Rs. 90-11-4 and in the latter case it is more than double that figure—Rs. 186-6-7. Thus the average debt per head increases with assets. Viewed from this principle, the labourers who have no assets worth the name have a debt per head amounting to Rs. 18-13-10. It is only when a man is creditworthy that he is able to get credit. The larger the amount of debt that a person has, the greater is his creditworthiness. The theory that debt follows credit is proved by the figures collected.

It should not, however, be concluded that because the big registered landholder has a debt per head of Rs. 186-6-7, he is more indebted than the small landholder who has only a debt per head of Rs. 91. The burden of debt should not be estimated by the amount borrowed. To find out the indebtedness or the burden of debts of an individual, a comparison of the debts and assets should be made.

*Vide Appendix II—Tables 1 to 3.

The labourers who have no landed property are the most heavily indebted, though the debt per head may be very small compared to that of other classes of registered landholders. Enquiry in the villages shows that the labourers spend very little on their food and clothing, but spend large sums on drink and comparatively big sums on ceremonies. The wages they receive are very poor and they vary from season to season. Though almost throughout the year they get employment, in some months their wages are so small that they are not able to subsist upon them. Moreover, the families of the labourers and small holders of land are bigger than those of the rich landholders. During the survey, many cases were brought to light of the small holders of land, who, not able to subsist upon the income from their land, turn labourers. Gradually their small holdings are lost and they become pure labourers without any lands to fall back upon. While taken absolutely the position of labourers is bad, comparatively their position is not so bad as that of the small landholder.

Small and medium landholders who pay an assessment of Re. 1 to Rs. 100 are the hardest hit of the agricultural classes. Very small land holders who pay an assessment of Re. 1 to Rs. 10, mostly work on their own fields and engage themselves for work in other fields. It is only the small and medium landholders paying, Rs. 10 to Rs. 100, who are in a very bad position. In fact, these small landholders form the bulk of the population. They live on the land and till the soil. Of course, the debt per head in the case of these small holders is lower than the debt per head of the big landholder. But they own only $526\frac{3}{4}$ acres and the debt per acre is Rs. 96-9-8 and the debt per rupee of assessment is Rs. 29-12-7 (total assessment paid is Rs. 1,708-4-0). These figures are far higher than those of the big landholders. In fact, debt per acre and per rupee of assessment show the real position of the peasants. These small holders are proud people and they will not deign to work as labourers. In the villages of the South Arcot District they are living almost in a deficit economy. The crop expenses along with assessment leave little for them for domestic expenses. Consequently, they not only borrow for their domestic expenses but fall into arrears in the payment of interest and principal of the debts contracted already. Prices have fallen phenomenally owing to depression and though there is a slight recovery in recent years (vide Appendix II, table 58), they are far below the 1929 level. No wonder then the small landholders are forced to part with their lands to the big absentee landlords, who happen

to be moneylenders also. The total number of acres which changed hands in two typical villages in each district, excepting Malabar and South Kanara, is 5125 in 1930 and 6,669 in 1933 and 5,994 in 1934.* The net area mortgaged by agriculturists to non-agriculturists has fallen. The reason may be partly due to the shrinkage of credit and partly to the increase of land sales. The following tables regarding sales and mortgages prepared from Mr. Sathyanathan's report are instructive—

(Collected from enquiry into two typical villages in each district except Malabar and South Kanara).

Years		Total changed hands	Net area sold by agricultur- ists to non- agriculturists	Net area mort- gaged by agri- culturists to non-agricul- turists
		acs.	acs.	acs.
1930	..	5,125	772	3,343
1931	..	5,540	1,368	2,644
1932	..	5,729	917	2,605
1933	..	6,669	1,406	2,553
1934	..	5,994	1,081	2,297

Referring to the indebtedness of small landholders, the Kurnool Re-settlement Report of 1935 says "Lands are being sold to meet these debts, and landed property is tending as perhaps never before in this district to accumulate in the hands of big moneylending ryots or of the merchants. Small ryots became tenant holders." Mr. Sathyanathan has shown how the number of pattadars paying Rs. 100 and less has actually fallen by 32,67,537 between faslis 1335 and 1340.† This tendency of the lands to change hands should be immediately checked.

The big landholders who pay an assessment of above Rs. 100 are also badly hit by the economic depression, though the burden of indebtedness is not so heavy as on the small and medium holders. Thirteen such families examined in the villages of Cuddalore Taluk have a total

*From Mr. Satyanathan's Report.

†Vide Appendix II—Table 17.

debt of Rs. 20,505 and debt per head is Rs. 186-6-7, but debt per acre and per rupee of assessment is Rs. 29-8-3 and Rs. 7-8-4 respectively. Most of these rich landlords who were examined by the writer happened to be moneylenders also. The richest landholder in the hamlet of Nellikuppam (Ellayappanpattai) regularly lent money to almost all the families that were indebted and on enquiry it was found that most of the lands he acquired were from those poor families in lieu of the debts they incurred. He was not in a hurry to get the money from the poor landholders, but allowed it to grow with interest till at last lands passed into his hands. That big land-holder had practically no debts. But another big landholder examined in Kottavancheri was indebted very much. The reason is extravagant living and fall in income from the land as a result of depression.

Mr. Satyanathan enquired into 564 typical families throughout the Presidency to find out the burden of indebtedness and he has arrived at the same conclusions as those of the writer.* Their landed property, consisting of 12,663 acres of wet land, 16,486 acres of dry land and 108 acres of garden, was worth Rs. 157 lakhs before the depression. The value of those lands, when he enquired (1934), was Rs. 69 lakhs. The total indebtedness of the families was Rs. 14 lakhs. Thus while debt formed only 9% of the value of land before the depression, it was 20% in 1934. The burden of debts has almost doubled. But there has been a general, though not appreciable, recovery in the wholesale prices of important commodities since 1934 (vide Appendix II—Wholesale Prices Table).

The Agencies of Credit

The whole borrowing has been chiefly from three different kinds of creditors. The nature of indebtedness studied in the villages (vide Appendix II—Tables 13 to 15) reveals that 89% of the borrowings were from ryot moneylenders, Saukhars and peasants, 10·3% of the borrowings from co-operative societies (there was one loan from a Land Mortgage Bank) and 7% from Government. Mr. Sathyanathan's figures for the 141 villages surveyed are as follows :—

- 93% Moneylenders and others.
- 6% Co-operative societies.
- 1% Government.

*Vide Appendix II—Table 7.

Causes of Indebtedness

The indebtedness of the ryot is not peculiar to India. Even the English farmer, who, perhaps in the whole world, owns sufficient capital and who has the advantage of renting land largely developed by the capital employed by his landlord, is obliged to borrow freely from the banker whether for advances at seed time or for purchase of manure, etc. Conditions are so different in India that every historian assures us that at no time was the Indian agriculturist free from debt. In the autonomous village of former times the village panchayat devised ways and means to prevent the accumulation of debts and alienation of property. The principle of 'Damdupat' prevented the moneylenders from demanding exorbitant rates of interest from debtors. But before the advent of the British, there was no centralised administrative Government and as the country was torn by political strife and as the proprietary right of land was not firmly established, the moneylender was not prepared to lend freely to the agriculturist. When a centralised government was established by the British, and law and order were maintained the autonomous village administration fell into desuetude and with it came good as well as evils. In the first place, it is primarily responsible for the decay of the village life. The customs and manners that kept down debts and made life in the villages happy disappeared. The cry is now, as never before, to make the village autonomous in administration. The Minister for Revenue, Government of Madras, has gone about drawing fascinating pictures of an autonomous village administration. But the advent of the British gave to the agriculturist a secure tenure in his land and this greatly enhanced the credit, not only of the ryots but also of the Indian Zamindars, by raising the value of land. Land, which was formerly considered an encumbrance, became a valuable asset on which it became easy to raise credit. Rights in land came to be defined and recorded and there was growth of transferable rights in land. Commerce and trade developed rapidly and the establishment of a hierarchy of permanent civil courts and the enactment of new measures—the Contract Act and the Civil Procedure Code—strengthened the position of the moneylenders and gave them power to attach the cattle and implements of the debtors and even to get them arrested and imprisoned for non-payment of debts. So serious became the bother of the moneylenders that various measures were instituted recently to protect the agricultural debtors. Added to this, the growth of mortgages on the passing of the Registration of Documents Act (1864) and the Transfer of Property

Act (1882) enabled claims on various persons to be recorded systematically. The agriculturist could sell or mortgage his lands and the law courts respected these transactions. The rise of prices which was rapid after 1854 created great optimism in the agriculturists who borrowed and were steeped in indebtedness. During the last forty years, which saw a steady rise of commodity prices and land values, indebtedness was steadily on the increase. The total annual value of mortgages which was 6½ crores when Nicholson enquired into the indebtedness in 1891 rose to 7.75 crores in 1900 and to 14.79 crores in 1914. During the years of war, value of mortgages slowly increased and between 1920 to 1928 the average was Rs. 20 crores. Since 1929 when prices fell rapidly mortgages also fell. During the depression there were hardly any new mortgages. Only the old ones were renewed.

Having traced the historical growth of indebtedness, it is necessary to go into its causes. Enquiring into the condition of the Kumbi royts, the Deccan Riots Commission of 1875 came to the conclusion that the causes of indebtedness were as follows :—

1. Poverty with unproductive soil, precarious climate and irregularity of income.
2. Ignorance and Improvidence.
3. Extravagance.
4. Ancestral debt.
5. Expansion of credit.
6. Increase of population without corresponding increase of return from land.
7. Facilities for borrowing owing to influx of moneylenders.
8. The Limitation Law as leading to renewals on usurious terms, including compound interest.
9. The Revenue System of a fixed demand.

To these causes may be attributed the state of indebtedness in the Madras Presidency also.

Insufficient Income

The Indian Agriculturist is very poor—so poor that he is not able to maintain himself. His poverty is mainly due to low income which is irregular. The Madras Banking Enquiry Committee, after assessing

the quantity and value of crops in the Madras Presidency, had come to the conclusion that the gross value of crops should be Rs. 165 crores. The prices of food crops fell between 1928-29 to 1933-34 by about 50% and though there was an increase after that period it was not very appreciable. The price of commercial crops, such as groundnut and cotton, fell by 40 and 60% respectively in 1933-34; but there was an increase of nearly 20% in the price of groundnut. On the whole, it may be taken that the fall of prices is still nearly 50% of 1928-29 level. So the gross value of the crops of the Madras Presidency is Rs. 80 crores. Both the census of 1921 and 1931 conclude that 71% of the population was dependent on agriculture. The increase of population in the decade ending 1931 is 4.7 millions over 1921. Allowing the same increase in population for the decade ending 1941, the population of the Presidency for 1939 should be roughly 50 millions. For a rural population of 35 millions the gross income (taking only the value of crops) is a little more than Rs. 22-12-0. But to find out the net income of the agriculturist, the cost of cultivation, land revenue and interest payments should be subtracted from the gross income. The Banking Enquiry Committee says that cultivation expenses take nearly half the crop. Mr. Sathyanathan says "The cultivation expenses may roughly be taken at 40% of the yield, though I am perhaps estimating cultivation expenses at too low a figure." Elsewhere I have calculated the cultivation expenses for a few families in the village of the Cuddalore Taluk.* The expenses for 1 acre dry where groundnut is raised comes to Rs. 20 to Rs. 25; for one acre wet when paddy is raised, it is Rs. 40 to Rs. 45. But generally many ryots do not ordinarily spend so much on their lands. For they cannot afford to spend so much money because of the fall in prices of agricultural commodities. Consequently the yield from land also goes down. With a lower yield per acre and fall in prices, the net income from one acre of land is almost next to nothing. To continue Mr. Sathyanathan's argument, instead of allowing 40% for crop expenses, we may safely deduct 50% of the value of the crops for crop expenses. If we deduct the total assessment (land revenue plus rent paid to Zamindars) of Rs. 8 crores, the net income of the agricultural population will be Rs. 32 crores. The agriculturist can avoid paying interest on debts incurred. But he cannot escape paying land revenue and spending on raising crops. So net income per head of the rural population in 1937-38 is

*See Appendix II—Table 62.

Rs. 9-2-3. This net income of Rs. 9-2-3 does not include income from subsidiary occupation. Even allowing Rs. 2 to 3 for subsidiary occupation the net income of the peasant cannot be placed above Rs. 12 per annum. The Central Banking Enquiry Committee arrived at Rs. 42 or about £3 a year as the average income of the agriculturist. The Simon Commission of 1929 said "...the average income of India per head in 1922 was equivalent, at the prevailing rate of exchange, to less than £8, while the corresponding figure for Great Britain was £95. The contrast remains startling even after allowing for the difference between the range of needs to be satisfied." The divergence between the average general income of an Indian and the average income of an agriculturist in the Madras Presidency is remarkable. It is needless to comment on the poor standard of living which leads to debts in the Madras Presidency. Thus the root cause of debt is the insufficiency of income.

Vicissitudes of Season

Poor as his income is, the Indian agriculturist is exposed to the vicissitudes of season which have a very detrimental effect on his income. The total area under all irrigated crops in 1937-38 was 10,898,480 acres representing 29·5 per cent of the total area under all crops.* Only 40·1 per cent of the total area of the Presidency was brought under cultivation. The land in regions which depend on monsoon for water supply will be very much affected by the changes in monsoon. As Mr. Darling observes "the monsoon may fail, or what is more likely near the hills, the rain may come at the wrong time; or a river may rise and sweep away harvest, hamlet and herd." While Government canals irrigate a greater proportion of the total irrigated area, tanks and wells irrigate 36·5 per cent and 15·5 respectively, of the total irrigated area. During the survey conducted in the Cuddalore Taluk, I came across many minor tanks which were almost flat and almost dry at a time when water was expected in the tanks. Repairs by the Minor Irrigation Department leave much to be desired. Hence tanks, except for a few in the South Arcot District, are of little use to the agriculturists. Lands under the irrigation of these tanks have, more or less, to depend on rain. Mr. Sathyanathan says that the return from invest-

*Economic resources of the Province of Madras and possibilities of their development—by L. B. Green, Director of Industries and Commerce, Madras.

ments on agriculture, as regards the staple food crops, is low, averaging from 2 to 5% in normal year with average prices. But normal years are not very common in India. According to Mr. Darling a cycle of five years will give one good year, one bad year and two normal years. But the economic depression has resulted in a series of bad years. While in the good year, the small agriculturist is able to get out of cultivation without incurring any loan, in bad and normal years he borrows. From the income in a good season, he will not be in a position to repay the money he borrowed during bad seasons. Hence, debt accumulates.

Crop Pests and Diseases

Insufficiency of income may be traced to the damages caused to crops by pests and diseases. During my stay in some of the villages, summer groundnuts were sown. But a red hairy caterpillar (*Amsacta albigriga*) infested the fields. There were millions of them covering the poor agriculturists' crops. Even in the streets a number of those caterpillars were seen. The only method of destroying the caterpillars according to the Agricultural Department is to pick them up and destroy them. But how can a poor agriculturist afford to employ a number of men to pick those numerous caterpillars and destroy them? Hence, when once the pests attack the groundnuts the agriculturist loses his crop. There is another pest called 'Surul poochi' in Tamil (*Stomopteryx nerteria*). The damage to groundnuts by these moths was great. The attack was fairly wide-spread and serious during the year I went to those villages. There is a kind of pest known as 'rice bugs' and they are a menace to paddy. In Anantapur where these bugs are common, they can devastate big area of cultivation. Mr. Sathyanathan, an eye-witness to the damages done by these locusts in Anantapur, says "The locusts suddenly appeared in millions. I thought we were caught in a great storm. Shortly afterwards, the ground was covered with a carpet of these insects 6" deep." The suggestion of the Agricultural Department to ward off these insects is to procure a big net to cover the fields and net the insects. The suggestion is indeed brainy. In addition to these pests, wild elephants in Coimbatore and South Kanara, wild pigs, bison and rats (rats more than any animals do a lot of damage) are also responsible for the destruction of crops. Besides the considerable risks due to monsoon, the poor cultivator has to face great risks from crop pests and wild animals.

Inefficiency of Cattle

Inefficient production is due, to a certain extent, to the poor breed of cattle. In the course of my survey I came across a number of villagers who owned plough bulls, cart bulls, cows, buffaloes, goats and sheep. I give below a statement of livestock in the case of 50 families out of 150 examined:—

*Number of Livestock in 50 Families in the Village of Nellikuppam,
Kottavancheri and Vazhapalam*

	No. of animals	No. of families owning the animals	No. of acres ploughed
Plough bulls	.. 128	32	465
Cart bulls	.. 32	14	..
Cows, calves, buffaloes and oxen	.. 241	37	..
Goats and sheep	.. 95	11	..
Families with no animals	.. ..	10	..

The number of livestock in the Madras Presidency as ascertained by a census held in 1935 is given in Appendix II—Table 35. Efficiency is not a noticeable characteristic of the cattle in the villages surveyed. Enquiry in the villages reveals that one pair of bulls can plough 4 acres and the agriculturist need not engage any hired ploughs. But the number of animals used for ploughing the total cultivated area of the Presidency is 9,434,182. These animals can plough only 18,868,364 acres. But the extent of land brought under cultivation is 32,031,639 acres. So a pair of bulls is expected to plough double the number of acres ordinarily ploughed by a pair. Examining the figures collected in the villages of the Cuddalore Taluk, it may be noted that 64 pairs of plough bulls plough an area of 465 acres or nearly double of what is expected of a pair. While the bulls are overworked, they are underfed. The result is that the inefficiency of cattle leads to inefficient production. Writing on fragmentation of holdings, Professor Radhakamal Mukerjee said "If the process (extreme fragmentation) continued, women in Gorakhpur might be compelled (as in Shantung in China) to draw the plough." The same situation may happen in

the Madras Presidency if those stunted animals, which are incapable of doing any hard work, breed indiscriminately and fall an easy prey to disease, are not carefully looked after and improved. The Royal Commission on Agriculture say "the process having gone so far, India having acquired so large a cattle population and the size of the animals in so many tracts having fallen so low, the task of reversing the process of deterioration and of improving the livestock of this country is now a gigantic one; but, on improvement in its cattle depends to a degree that is little understood, the prosperity of its agriculture and the task must be faced." The farmer's mainstay is his cattle. If he loses them, he has to replace them by new ones. For that purpose many families in the villages I surveyed incurred heavy debts. In fact, most of the taccavi loans and loans from Co-operative societies are for the purchase of bulls for ploughing or for carts. Cattle mortality from natural causes is great, but mortality from contagious diseases has slowly decreased from 158,523 in 1923-30 to 31,774 in 1933-34.*

Inefficient Methods of Production

Large tracts of cultivable land are now lying fallow in the districts of Tinnevely, Trichinopoly, Salem, South Arcot, Chingleput, Nellore, Bellary and Cuddapah. But even the present area of cultivable land is not intensively cultivated; nor is it possible to do so with the inefficient instruments of production. Mr. Darling observes "The plough that looks like a half-open penknife and just scratches the soil, the hand-sickle made more for a child than a man; the old fashioned winnowing tray that woos the wind to sift the grain from the chaff; and the rude chopper with its waste folder, are undisplaced from their primitive but immemorial functions." The above observation is a correct description of the primitive tools used. The wooden ploughs used number 4,293,812 and the iron ploughs 44,879. In spite of the demonstrations and exhibitions carried on by the Agricultural Department, the iron ploughs have not become popular. The reason is the bulls are not strong enough to draw the iron ploughs. The agriculturists are not rich enough to buy strong and efficient bulls. It is curious to find the Agricultural demonstrator going into the villages with his iron plough, grown rusty from want of use for a long time and preaching to the agriculturists how the iron plough is preferable to wooden ploughs, how chemical manures are superior to ordinary manure

*Vide Appendix II—Table.

and kindred topics. The villagers surround him and give him a patient hearing and when the demonstrator finishes his discourse, the agriculturist goes on his own crude way of cultivation ignoring the teaching of the agricultural demonstrator. It must be the endeavour of the Agricultural Department to see that better methods of cultivation are adopted in the villages. The cultivator, who has become very lethargic and is content with things as they are, should be roused from his lethargy if production is to be improved.

Fragmentation of Holdings

One of the serious handicaps in the way of improving production by better facilities or irrigation, better seeds, manures and implements is the sub-division and fragmentation of holdings. What is needed is an economic holding. Mr. Keatinge, in describing an economic holding, observes, "It is a holding which allows a man a chance of producing sufficient to support himself and his family in reasonable comfort, after paying his necessary expenses." The cause of fragmentation is the sub-division of holdings, which is principally the result of the Hindu law of inheritance. According to the law "Everything is divided,—shares, holdings, plots, tenants' houses, groves, ponds and even trees. And where there is no formal partition there is always an informal one." The effect of sub-division is enhanced by the indebtedness of the ryots and forced sales of the inherited lands. Dr. Slater found that the agricultural holdings of the Madras Presidency had, to a large extent, been reduced to a condition in which their effective cultivation was impossible. Fragmentation of holding is the manner in which the holding is held. In my survey, I found the lands of many farmers extremely fragmented. To take only two or three typical cases in the hamlet of Nellikuppam, a villager owning 5 acres of dry and $7\frac{1}{2}$ acres wet land had his land fragmented in ten pieces. The smallest piece was $1\frac{1}{16}$ acre or 0.06 acre and the biggest .75 acre; another peasant who owned 3 acres of dry land and $\frac{1}{2}$ acre of wet land had his land distributed in fifteen places and the longest distance between one piece and another was more than half-a-mile; a third villager who owned 1 acre of wet land and $3\frac{1}{2}$ acres of dry land had eight pieces of land, the smallest fragment being .125 acre; yet another landholder owning $4\frac{1}{4}$ acres of dry land and $\frac{3}{4}$ acre of wet land had his lands distributed in fifteen places, the longest distance between two plots being $\frac{3}{4}$ mile. Most of the landholders had their lands fractionalised. It is a clear index of the havoc wrought by

indebtedness and the usurious moneylenders. *Mr. Sathyanathan who has collected figures of sub-division of holdings in the Chingleput Taluk has found that 12,349·79 acres of wet holdings consisted of 31,879 fields including sub-divisions, while the average of the sub-divisions and whole fields was 39 cents. Small holdings restrain the farmer from adopting more improved methods of cultivation and prevent him from taking to intensive farming. Moreover, these undersized holdings are in debt and when a cultivator has a big mill-stone of indebtedness round his neck, he can hardly hope to adopt improved methods of agriculture. So fragmentation and sub-division of holdings are the basic causes of debt.

The Increase of Population

The growth of population, without a corresponding increase in the acreage under cultivation, increases the burden of indebtedness. Between 1921 to 1931, while population increased by 10·4%, the net area sown rose by only 1·5% and holdings by 5·7%. Average holdings per head of population fell from 62 cents to 59 cents. The average must be still lower now, if the growth of population this decade is the same as 1921-31. In the thickly populated areas of Europe meagreness of area is made up by intensive cultivation and efficient production. The Madras peasant is unable to adopt any of those methods for reasons narrated in the previous paragraphs.

Unproductive Expenditure

The purpose of borrowing, as seen from my examination of 150 families in the villages of the Cuddalore Taluk, is as follows:—

	Per cent
Ancestral debts	.. 47·6
Agricultural expenses	.. 9·5
Buying land	.. 7·0
Domestic expenses	.. 5·7
Marriage and social functions	.. 12·0
Trade	.. 4·4
Other purposes including payment of land revenue	.. 13·8

*Vide Appendix II—Table 34.

Unproductive expenditure consists of ancestral debts, marriages and social functions, relief of distress, faction and litigation, taxes paid and domestic expenses. Roughly, unproductive expenditure forms 79·1% of the total debts.* This feature is really very peculiar to India. In the United States and other advanced countries of the West the major portion of farmers' borrowings are for productive purposes and only a very small percentage is for family expenses. In India the amount spent on productive purposes is very low. According to my survey, the sum spent on buying of lands, agricultural operations and trade amounts to 20·9% of the total debts. All debt is not an evil. It is always good to borrow for productive expenditure. But the sum spent on unproductive expenditure is great in the Madras Presidency and no return can be expected of such an expenditure.

The general complaint is that the Indian agriculturist is improvident and extravagant. Though it is true that the agriculturist spends large sums on marriages and social ceremonies, yet they do not form a big proportion of an individual's debts. Enquiries in the villages show that the villagers were not ruined by occasional borrowings for the purpose of marriages. It is only in the case of very rich classes that marriages mean huge debts. Marriages and social functions account for 12% of the total debts incurred by the peasants in the villages of the Cuddalore Taluk.

According to Mr. Sathyanathan, litigation, local politics and faction are the causes of extravagant spending by agriculturists. In the villages surveyed by me rivalries between parties were not common, though in one case there was a competition between two parties to get their men installed as the village munsiff. Of course, some expenses were incurred by the two parties on that account. The most litigious and factious villages of the Presidency are in Tanjore, Tinnevely and Guntur. Villagers in these districts are found to spend large sums on filing of suits in civil and criminal courts, on paying fees to lawyers and bribes to witnesses and subordinate officers in courts and on court fees. The villager in a factious village is an obstinate person who will pursue his case by appealing to the highest tribunal in the land. As Mr. Sathyanathan says, "Faction and litigation are the chief forms of amusement the villager has. The game of local politics is also absorbing to him

*Vide Appendix II—Table 6.

.....It is considered fair play to down the enemy even in these courts of justice and communal grazing grounds."

According to the survey in the villages, borrowing for domestic expenses amount to 7%. These borrowings are not the result of a rise in the standard of living. In fact, there has been a fall in the standard of living of the agriculturists owing to the economic depression. Borrowings for domestic expenses are the index of the extreme poverty of the peasant.

Land Revenue

To a certain extent, the incidence of land revenue influences indebtedness. As the payment of land revenue is fixed in money, it involves great hardship during a period of fall in prices when the value of money falls. The half net theory of the Government according to one writer has become the 'all net theory'. Though the land tax proper was not enhanced during the period of settlement, there was an appreciable increase in the water-rates and other miscellaneous items of land revenue. But if we compare the figures for 1881 with the figures for recent years, the increase of land tax is remarkable. The total land revenue of the Ryotwari area of the Madras Presidency was Rs. 36,644,152* excluding cesses in the year 1881; but it was increased to Rs. 67,443,085, excluding cesses, in 1933-34. This increase may be due partly to more lands being brought under cultivation. In the Zamindaris the condition of the tenants is very bad. The dictated Land-rent policy is 33% of the gross produce on dry lands and 40% of the gross produce on wet lands. This may not leave anything to the ryots after cultivation expenses are met. In a survey conducted by the South Indian Estates and Landowner's Economic Council to assess the burden of taxation in the Pithapuram Zamindari, it was found that in some lankas (islands in Godavari) the rates of rent collected were very high. Ordinarily the rates of rent varied from Rs. 5 to Rs. 18 and sometimes to Rs. 30 in the case of wet lands. In the case of dry lands the rates varied from Rs. 5 to Rs. 10. The Zamindar never grants the lanka lands on pattas but puts to auction the right to cultivate the land for one or two years. Professor N. G. Ranga, who conducted an economic survey of the Zamindari has come to the conclusion that the rents on

*Madras Manual of Administration, Vol. 2, page 397.

the lankas rose to such unbelievable heights of Rs. 150 per acre per annum during 1932-33 and Rs. 300 to 400 a few years before. When the price of tobacco cultivated in the Lankas fell, most of the ryots sustained serious loss and were consequently in arrears in the payment of rents due from them. "For instance, one village Mulakallanka which had to pay Rs. 27,000 in 1932-33 towards the rents on these lankas, is in arrears to an extent of Rs. 40,000. The Government whose rents for its lankas are not even half as much as those of the Zamindar, granted remissions in 1932-33 to the extent of Rs. 80,000 in the neighbourhood of that village whereas the Zamindar had refused to give any remission." Pithapuram Zamindari is but one example of rack renting by the Zamindar. There are worse cases of rack renting in some other Zamindaris. On the whole, the indebtedness of the ryots in the Zamindari is to a large extent due to the heavy rates of rent exacted from them. Enquiry in 150 families in the villages has revealed that out of a total debt of Rs. 74,403, a sum of Rs. 35,381 (47·6%) represents ancestral debts. This is a very heavy burden on the agriculturist. When a ryot borrows especially in a bad season, he is not able to repay the debts during the normal seasons or even in good seasons. In the villages I surveyed, and in the Madras Presidency as a whole, the lenders of money to agriculturists are generally the ryot moneylenders. Of course, there are professional moneylenders, like Marwaris and the Chetti banking community. While the rates charged by the Marwaris vary from 18 to 50%, the rates charged by the ryot moneylenders vary from 9 to 24%. Secured debts usually carry 12% and unsecured debts from 8 to 24%. During my investigations I found that the sowcars of Kurinjipady who supplied the villagers with money, usually charged 6 pies for a rupee for a month or 37½%, but 9 pies for a rupee for a month or 56¼% was not uncommon. It is only the usurious rates of moneylenders that have swelled the volume of debts. Loans are generally given on pronotes, on personal security or joint security and on the mortgage of landed property. In my enquiries in the villages, there came up many cases of pronote debts, which were originally for short periods of a year or two with no fixed terms. They were renewed after three years with the addition to the principal of the interest and penal interest that remained unpaid. When several renewals of pronotes take place the debt swells many times its original proportion, and ends by being converted into a mortgage debt. Mortgage debts last for many years and finally the creditor forecloses and takes possession of the lands of the poor ryots. The moneylender is an avaricious person gene-

rally and does not keep accounts. The borrower believes all that the creditor says to him regarding the payment of interest. Generally, the moneylender dupes the poor agriculturist of the interest he pays and does not record the payments made. Gradually interest goes on accumulating in spite of the payments made by the agriculturist and at last the load of ancestral debt is so great that he is forced to part with his lands to the moneylenders.

Middlemen and Lack of Marketing Facilities

There is a close connection between the indebtedness of the ryot and the marketing. In many cases the trader or the middleman happens to be the moneylender and as soon as the produce is harvested, it is sold to the creditor as originally arranged. In some cases advances are made to ryots by agents of exporting firms (e.g. Rally Brothers) for the selling of produce at a certain price to them and the poor agriculturist loses a good price for his produce. Moreover, during my survey, I was informed of the atrocities committed by the 'mandi' owners, who are middlemen. Groundnut selling by the ryots to the middlemen is very common in Cuddalore Taluk. The 'mandi' owner actually forces the ryot to part with his groundnut at a ridiculously low price. In addition, he makes various deductions towards commissions and dupes the ryots by false balance and measures. No wonder then that the poor agriculturist who gets a very meagre return from land, when duped by the middlemen, gets a very low money income for his produce.

Lack of Subsidiary Occupation

Another important factor which contributes to the extreme economic weakness of the Indian agriculturist is the inadequacy of subsidiary occupations which supplement his poor income from land. While for six months the peasant finds work on his field, he wastes his time for another six months doing practically nothing. Supplementary occupation is unknown to South Indian peasants. Of the several villages I surveyed, in one hamlet (Andikuppam) only the peasants engaged themselves in a kind of rough mat weaving out of kora grass. They sold the mats in the weekly shandi and realised a few annas which went a long way to add to their main income from agriculture. In other villages no subsidiary occupation was known. In Japan a very large proportion of peasants (including women) engage themselves in subsidiary occupations like toy-making, rearing of silk-worm, etc., and earn a substantial income.

Economic Depression

Before the onset of the depression there was a boom in the prices of commodities, e.g., in South Arcot District a maund of groundnut was selling at a price of Rs. 80. Hence the agriculturist spent liberally and borrowed at heavy rates of interests to buy land. He was not able to speculate as the trained business-man would. Slowly the prices of crop began to fall and the agriculturist was unable to repay what he borrowed. The value of land declined steeply and he was forced to part with a large portion of his lands for his debts. He was constrained to borrow for his cultivation expenses and domestic expenses and he resorted to the sowcars and the middlemen. Enquiries in the villages revealed that almost all the families lost a large number of jewels by pledging them with the sowcars. The result is jewels worth any value are rarely found in the families of these villagers.

Effects of Indebtedness

The evil effects of debts in the economic, social and moral spheres are great. As already pointed out, debt leads to agricultural inefficiency. The feeling that he has to sow for others to reap damps the ardour even of the most enthusiastic. The result is that debts and inefficient production of agriculture go in a vicious circle. Orderly and profitable marketing is greatly affected by debts. A more pathetic effect of indebtedness is the constant change of ownership of lands. It has been found that a large proportion of lands which change hands go to non-agriculturists or are mortgaged with them. The result is that tenant farming, which is noted for inefficiency and absentee landlordism increases. The census reports of 1921 and 1931 show that landless agriculturists have increased in India in recent times. In 1921 for every 1000 cultivators, the number of farmservants was 291. The proportion increased to 407 for 1000 cultivators in 1931. Mr. Sathyanathan's enquiries in 141 villages have revealed that for 80,999 pattadars (registered landholders) 30,749 were farm-servants.* Another result of indebtedness is the coming into being of the indenture labour system or the 'Panniyal' system as it is called in Madras. When a labourer borrows a small sum from a landlord, he binds himself to work for the lender, receiving a bare subsistence wage. The agreement entered into

*Report on Agricultural Indebtedness—W. R. Sathyanathan, page 38.

is that the labourer should work for the landlord until he repays the debts. During the investigations in the villages of the Cuddalore Taluk, I came across those panniyals who were little better than serfs. For generations they were bound to their masters and there was little hope of their liberation.

An important class of society, engaged in the noble profession of raising the foodstuffs for the nation, is steeped in debt with little hope of recovery. It will be a danger to society if the agriculturists break down under an intolerable burden. Different measures have been passed to protect the agriculturist in India and in foreign countries. A study of some of the most important measures to protect debtors is necessary and interesting before we take up the question of agencies who supply credit to the agriculturists.

CHAPTER 5

MEASURES FOR SCALING DOWN DEBTS WITH SPECIAL REFERENCE TO THE MADRAS AGRICULTURISTS' RELIEF ACT—1938*

Introduction.

In the previous chapter we found how the agriculturist is suffering from an intolerable burden of debts. The money income of the agriculturist fell appreciably as a result of the economic depression. The prosperity of the entire nation is dependent upon the well being of the agriculturist. It is a danger to society if the agriculturist, who is engaged in the noble profession of raising the foodstuffs of the nation, breaks down under an intolerable burden. The need for scaling down debts is therefore great.

Passive attempts were made to redeem the agriculturist by the passing of several legislative measures such as the Land Improvement and the Agriculturists' Loans Acts, the Co-operative Societies Act, the Land Mortgage Bank Act, the Insolvency Act, the Usurious Loans Act, an Act for the Protection of Debtors and the Agriculturists' Loans Amendment Act of 1935. These various legislative measures will be discussed in the relevant places in the thesis. Suffice it to say here that these measures did not attempt to scale down debts. They either attempted to bring down the rate of interest or supply more credit facilities. Before these measures are put through, the heavy indebtedness under which the agriculturist is suffering should be reduced or wiped out as the case may be.

Conciliation or Compulsion?

If relief is to be given to the agriculturists by scaling down debts, is it by compulsion or by mutual agreement that debts are to be scaled down? It is said that arbitrary scaling down of debts by the state will lead to a great curtailment of credit and that only if voluntary conciliation fails, compulsion should be tried as a last resort. Though the effect of

* See 'The Madras Agriculturists' Relief Act—A Study. By Dr. B. V. Narayanaswamy Naidu.

compulsory legislation in frightening away credit cannot be minimised, the economic depression itself has impeded credit. Such measures should be looked upon as an attempt to solve a deadlock and if they are successful they will not only be beneficial to the debtor but also to the creditor. The Prime Minister, Mr. Rajagopalachariar believes that voluntary conciliation will be of no avail in our Presidency; for the creditors will never come to terms with the debtors. Moreover, almost every agricultural country in the world has found it necessary during the depression to adopt some compulsory measure of this kind. The Debt Conciliation Act of 1936 has not been scraped out of the Statute Book. Unlike in Central Provinces it is retained to set in motion the Agriculturists' Relief Act. The Debt Conciliation Act and its working will be described after a discussion of the compulsory scaling down of debts.

Legislation in Foreign Countries and in India.

A study of the various attempts made to solve the problem of the indebtedness of the rural population in other countries and in our own will be necessary and useful in giving a proper perspective for the discussion of the relief measures in Madras. It has been contended that "the nature of the debt of the South Indian peasant and the conditions of South Indian rural economy are very different from those of the Western Countries" and that the time and circumstances under which those measures were adopted also differ from ours. Though much of the debt of the central European farmers was contracted for the re-construction of farms devastated by the war, one cannot be blind to the enormous suffering of the agriculturists due to the catastrophic fall in agricultural prices after the depression, the heavy interest charges and the increased cost of production which was the result of improvements in farming effected at a time when market conditions were favourable. The result was the farmer was working on a deficit economy. In Greece, the average income per family was 19,398 drachmas and the average expenditure considered to be indispensable, 25,055 drachmas. The condition was similar in most of the European countries. In India poverty has been the chief cause of indebtedness and the agriculturist was paralysed by the economic depression. But whatever may be the general or specific causes of indebtedness it is a well known fact that excessive indebtedness is a common evil. It is injurious at the same time to debtors and creditors and its effects are felt by the whole community. So a study

of the measures adopted to eradicate this evil in foreign countries will be profitable.

The different measures adopted in foreign countries may be divided into three categories. Certain countries of Central and Eastern Europe adopted radical measures which aimed directly at relieving the farmers from debts. These measures partook of the nature of compulsory conversion of farmer's debts, reduction of the rate of interest and, in certain cases, of the principal also by the imposition of law. The second type of legislation pursued a policy of direct intervention but confined itself to narrower limits. This type of legislation is characterised by the repayment of loans by instalments over a series of years, the suspension of the measures of distraint against debtors, repayment by the State of part of the debts and the imposition of minimum prices for the sale of expropriated property. The last type of measures seeks to help the debtors through indirect means by the provision of cheap credit facilities and through measures adopted with a view to raising the prices of principal crops and improving agriculture.

In Germany, as a result of the crisis, numerous legislative measures were rendered necessary between 1931-32. The floating debts of the needy farmers were replaced by a special loan granted by the Bank for German Industrial Securities. The funds were drawn from the levies imposed on the industries while the Reich guaranteed 25% of the loan granted. Orders were also issued offering protection against distraint by creditors. Where voluntary agreement failed, creditors and debtors were subject to legal process which remitted arrears of interest, reduced interest for the future and even made possible compulsory reduction of principal by 50%. In addition to these, and some other measures of the National Socialist Government, there was a proposal for raising to a remunerative level, the prices of agricultural products which in part, had remained appreciably below the cost of production.

In Italy, by a law of 1930 the extinction of onerous agricultural debt was facilitated by a conversion of short term loans into long term loans payable in 25 years. The State undertook to pay a part of the instalments. Where there are scientific improvements in farming, the Minister can grant contributions not exceeding 3½% interest repayable in twenty-five years. Mortgage credit institutions were called upon to replace bonds bearing more than 4% interest by bonds bearing interest at 4%.

In Switzerland the Government found it necessary to develop a Peasants' Aid Bank, which would give help to the distressed farmers in the form of loans with or without interest and subsidies towards interest; to develop protective measures of a legal nature taken in favour of distressed farmers by the suspension of the repayment of capital, reduction of the rate of interest on secured loans, reduction or suppression of interest on capital sums not secured and extinction of interest due in certain cases; and to prevent new indebtedness by a bill aimed at reducing mortgage debts to a tolerable amount, i.e., to enable the farmer to have a subsistence income for him and his family. In the adjustment of debt proceedings the debtor, creditor and the community would collaborate. While the community would subscribe a certain amount for some years to a fund, the creditor would renounce a part of his credit. The creditor would be bought out by a redemption bond. The Federal Council would have control over the farms and would limit indebtedness in future.

Measures adopted in Denmark, Norway and Sweden were more or less similar to those in Switzerland. But in Finland short term loans were converted into long term loans and the land mortgage bank was reorganized. The State not only guaranteed the bonds but subsidised them. Loans were granted up to 90% of the value of the farm. If the farm was forcibly sold in auction it was bought by the bank and restored to the original owner in case he was found fit to assume responsibility. The French legislation was characterised by postponement of repayment to the various classes of debtors.

By a law of 1934 debts of the agriculturists of Bulgaria were reduced by 40%. The difference resulting from the reduction of debts was made up out of an amortization fund formed at the Public Debt Office to which the State assigned the proceeds of the tax on vocations and the supplementary tax on total income. The limit of exemption of property for distraint of debts was increased. Some other features of the Bulgarian legislation are the spreading of the instalments of repayment over longer periods, postponement of repayment from 2 to 15 years and reduction of the rate of interest. Greece declared a moratorium for agricultural debts in 1930 and followed, to a large measure, the legislation in Bulgaria.

Certain debtors in Hungary who got their debts inscribed in the land register of their country were protected from the sale of their property for three months. The State contributed a sum towards the

payment of interest on debts of those persons. The legal rate of interest was fixed at $5\frac{1}{2}\%$. An amortization fund was set up for the reduction of debts of certain farmers.

Arrears due to the treasury and other public bodies in Poland were reduced in 1932 on condition of the payment of current taxes within a certain period. Long term debts to credit institutions were converted and were repayable in 55 years at a reduced rate of $4\frac{1}{2}\%$. Long term debts due to private individuals need not be repaid for a certain period and the rate of interest was also reduced. Short term debts both to credit institutions and private individuals were converted. In the matter of repayment of instalments and in the reduction of the rate of interest greater concession was always shown to small land-holders than to big land-holders.

While Rumania and Czechoslovakia followed up the main principles of the Swiss legislation in the reduction of capital and interest, they supplemented those measures with a policy for the reorganization of production at a cost that would leave a margin of profit to the agriculturists. For then only could reduced debt be paid back in future. In Rumania agricultural centres were established and furnished with modern technical equipment for every branch of production with a view to increasing the yield of land. The course of foreign commerce was regulated to find extended markets for Rumanian agricultural products and to increase the price of cereals. Czechoslovakia prevented speculation in the commodity exchanges of grain by fixing the price of cereals.

Legislation pertaining to moratorium and amendment of civil laws to prevent sale of lands of debtors by auction are characteristic of the measures adopted in Yugoslavia and Latvia. In these two countries and in Estonia and Lithuania provision was made for the conversion of short term loans to individuals, co-operative societies and private banks, into long term loans. Land Mortgage Banks in certain cases and State Agricultural Banks in others were established to take over these reduced debts of farmers. Rate of interest on mortgage loans was reduced considerably.

Only voluntary conciliatory methods in the reduction of debts were adopted in Japan. Associations were formed for that purpose in villages. Passive conciliatory machinery was established in Canada by a law of 1934 to enable farmers, over burdened with debts but not

desperate, to remain on their farms. Farm Loan Laws were amended to increase the total amounts that could be lent by the Dominion Farm Loan Board and to raise the sum that could be advanced to any borrower from 50% of the value of security to 60%.

The agricultural credit policy of the United States of America was entrusted to the Farm Credit Administration, whose aim was to create a system of completely unified credit institutions on a permanent basis, to supply credit to farmers and their organizations at the lowest cost and to facilitate the adjustment of the heavy burden of mortgage debts by emergency financing and reduction of the rates of interest. Debt adjustment Courts would go into each case to decide the deserving farmers. To enable the farmers to make voluntary arrangements with their creditors, the Credit Act allowed a flotation the proceeds of which could be utilised for the purpose.

It must be noted that when drastic measures are adopted in most countries it is only to give adequate relief to small holders. Ordinary law and the conciliatory machinery give relief to big landowners. Measures which are popular are those which respect contractual obligations. Where radical measures are adopted credit unduly contracts and public opinion strongly reacts rendering necessary the adoption of new measures to calm the people. But, in spite of popular agitation, various countries have adopted radical measures because they must have found out the futility of conciliation and mediation in the case of small holders.

In the Indian Provinces excluding Madras much attention is being paid to the question of tenancy legislation. In Bihar, Orissa, the United Provinces and Bombay, bills have been introduced in the legislatures to relieve the tenants from the oppression of Zemindars chiefly for arrears of rent and debts and to enforce their occupancy rights on lands. Regulation of money lending has been attempted with full or partial success in the Punjab, Bombay, Bengal, Orissa and some other Provinces. Debt conciliation boards have been formed in the Central Provinces, Bengal and Bombay. Acts to prevent land alienation were passed in other provinces.

After the passage of the Madras Agriculturists' Relief Act, bills have been introduced for compulsory scaling down of debts in Central Provinces and Bombay. The new bill in the Central Provinces proposes to scrap the machinery of Debt Conciliation Boards and provide Debt Relief Courts. A system of graded relief, based on the estimated

fall in the value of land, is being introduced in the Bill. The payment of interest is limited to $4\frac{1}{2}\%$ compound interest with yearly rests or 6% simple interest on secured loans and 9% on unsecured loans. Debts due to co-operative societies and certain banks and rent debts have been excluded from the scope of the Bill. In Bombay a Bill has been introduced in the legislature by which compulsory scaling down of debts, according to capacity to pay as ascertained by Debt Adjustment Boards appointed by the Government, has been provided. The Boards are to work under civil courts which are empowered to hear appeals in specified cases. Interest is to be not more than 6% on debts contracted before January 1939 and not more than 9% on subsequent debts. Those who are entitled for the relief are those agriculturists whose principal amount of debts secured by property is not more than Rs. 15,000 and not less than Rs. 100. In the case of debtors whose assets are inadequate to pay the scaled down debts, they can be declared insolvent by the Board. The Debt Adjustment Board has power to order sale of a debtor's property in liquidation of his debts, if such a procedure is in his interest.

In the Bhavanagar State a Commission was appointed to assess the causes and the volume of indebtedness. On the basis of its report the Durbar, by a debt redemption scheme, sought to liquidate the past debts of agriculturists by advancing loans to each individual ryot at easy rates of interest. The awards of the Debt Liquidation Committee are binding on the sowcars and the ryots. It is interesting to note that, while the nominal indebtedness in the sowcar's books was Rs. 86,38,874, the amount that was actually paid in composition was Rs. 20,59,473. The reason for this successful liquidation is the immediate cash payment by the State to the sowcars. For the liquidation scheme to be effective and permanent, the system of village panchayats was introduced by which the villagers took on themselves the management of their own affairs and were made responsible for the development of the economic welfare of the ryot. In Hyderabad, the Land Alienation Act has been made more stringent; and registration of moneylenders was enforced to prevent usury. Debt conciliation boards established for the benefit of a certain class of agriculturists were based on voluntary efforts with a small element of coercion for effective working. Further, there are proposals to start land mortgage banks and to provide the bankrupt debtors with a rural insolvency Act.

From the Moratorium to the Debt Relief Act.

Madras is the pioneer in the field of introducing compulsory legislation for the scaling down of debts.

The first measure of the Congress Government was a Moratorium Bill published in the middle of September, 1937. The Bill was intended to give temporary relief to indebted agriculturists till comprehensive measures were formulated for dealing with indebtedness. Both the period of the Moratorium and its applicability were restricted. The Bill laid down that for a year no suits or proceedings could be instituted against agriculturists whose liabilities under the heads of land revenue, rent and taxes and liabilities to local authorities did not exceed Rs. 400; who had saleable interests in lands; and who derived $\frac{3}{4}$ of their income from lands. The sums due to Provincial and Central Governments, to co-operative societies, joint stock banks and land mortgage banks were excluded from the operation of the Bill. It was made clear that agriculturists should not be entitled to transfer any immovable property so as to defeat the rights of their creditors.

Though substantial measures of relief were to follow the Moratorium, there was great opposition to it. It was said that moratorium was a desperate remedy to which Governments resorted when their banking systems were threatened with crash by a war or other serious calamity. But in the West, such moratory legislation is common. In the Co-operative Conference a resolution was passed that the Moratorium Bill that was introduced in the legislature should be either ancillary to the Agriculturist's Relief Bill or should be immediately followed by such a bill. In the latter case, the interval should not be more than three months. But in Greece a moratorium for five years was declared and one year was not too long a period. It was contended that the definition of 'agriculturists' worked great hardship in the case of certain deserving agriculturists, whose income from land was not $\frac{3}{4}$ of their total income. A fear was expressed that there would be a shrinkage of credit for seasonal agricultural operations. But such complaints were always made against all radical measures.

Great agitation against the Moratorium forced the Government to drop the idea and to publish in the beginning of December, 1937 the Debt Relief Bill. This Bill is simple and quite different from the Debt Relief Act that has actually come to stay on the Statute Book.

The object of the Bill is to rehabilitate agriculture, the basic industry of the Province, by relieving the producers of food from the incubus of indebtedness. The main principle of the Bill is that all arrears of interest outstanding on the 1st October, 1937, shall automatically stand cancelled, in the case of all debts incurred by the classes of debtors defined as agriculturists. Where simple interest has been charged at more than 9% or compound interest charged or provision made for penal interest, the debt shall be deemed to be discharged in full if the total sum paid to the creditor, whether for interest or principal, amounts to twice the amount of the principal of the loan. If the amount paid till 1st October, 1937, falls short of twice the principal, such amount as will make up this shortage or the principal amount alone, whichever is less, will be paid to the creditor.

For the purposes of the Bill an agriculturist is one who has a saleable interest in land under the ryotwari or other tenure or a lessee of such lands. The Moratorium Bill did not include the lessees within the scope of agriculturists. Unlike the Moratorium Bill, no upper limit of income from land is fixed in this Bill to qualify an agriculturist for the benefits conferred on him by this measure, though such limits are fixed for landholders under the Estates' Land Act and the Malabar Tenancy Act. Those who pay income-tax or profession tax of more than a rupee a year or property or house tax exceeding Rs. 600 a year are excluded from the operations of the Bill. These provisions are intended to ensure that persons following occupations other than agriculture do not benefit by the Bill. The Bill exempts the debts due to Governments, Local Bodies, Co-operative Societies and Joint Stock Banks with a membership of more than 500 share-holders. The rate of interest on all future loans is 6%.

Arrears of rent payable in areas under the Estates' Land Act and the Malabar Tenancy Act except arrears of the last two faslis shall be wiped out according to the Bill. But the tenant must pay within 15 months of the passing of the Act arrears of the last two faslis in full. Otherwise the old arrears will be deemed to be discharged only proportionately to the extent rents discharged for faslis 1346 and 1347.

The provisions of the Bill can be applied to decreed debts. Where a decree is in execution, it can be stayed till it is again demanded. Sales of movable or immovable property of the agriculturists can be set aside if such sales are made in execution of a decree after 1st October, 1937.

The amount in excess of the scaled down amount received by the decree-holder as a result of the sale shall be refunded to the debtor.

The Bill was referred to a Select Committee on the 21st of December. The most fundamental changes made in the Bill by the Select Committee are those regarding interest clauses. The Committee has made a distinction between the pre-depression period and the post depression period i.e., debts incurred before 1st October 1932 when the value of money was less than now and those incurred after that date when the value of money increased owing to a fall in prices. The provisions regarding the wiping out of interest were retained in the case of pre-depression debts, while for debts incurred between 1st October, 1932 and 1st October 1937, the rate of interest was fixed at 5%. Where a debt after 1st October, 1932 was found to be a renewal of a debt incurred prior to that date, the debt or any part of it renewed will be dealt with as a debt incurred prior to 1932. Thus the principle of damdupat has been retained for pre-depression debts.

The payment of the rent for fasli 1347 before 30th September, 1938, was made a condition precedent to the grant of relief to a tenant from arrears of old rent. The rent for fasli 1346 must be paid before 30th September, 1939, if the tenants want a full discharge in respect of all arrears of rent accrued for previous years.

Minor changes have been effected in the definition of agriculturists. Women who own no property but who have lent out sums less than Rs. 3,000 are exempt from the Bill. Personal belongings of a woman, viz., jewels and household furniture should not be taken into consideration when computing the value of the property. Wages due to agricultural and rural labourers were exempted. A mortgagee in possession of the property mortgaged not taking any interest is exempted from the Bill.

For the sake of easy calculation the Committee has changed the rate of interest from 6% to 6¼% or 1 pie for a rupee for a month.

Before the Bill was passed into an Act the Government made certain amendments in the Bill and this has resulted in two important changes in the Bill. Where once creditor companies with 500 shareholders and more were exempted, this concession was now limited to scheduled banks of the Reserve Bank provided the interest charged by

them was within 9%. In the case of post depression debts past payments in excess of 5% shall be appropriated only to arrears of interest while formerly reduction of principal also was possible.

The Upper Limit.

The main object of the Act is to rehabilitate agriculture, the basic industry of the Province, and not so much to give relief to individual agriculturists. It is true that the land is the source from which the food for the people and the raw materials for the factories are produced. It is argued that as the prosperity of other sections of the people is dependent upon the agriculturist and his land, agriculture as an occupation is sought to be relieved from indebtedness. The Premier said that it was intended to relieve the industry of agriculture by lightening the burden on land. The burden is actually felt by the man and some ryots feel the burden while others do not. By the occupation test relief will be distributed indiscriminately to both big and small land-holders, to those who need relief and those who do not. A study of foreign legislation will reveal that radical measures were adopted only to save the small holders while the big owners of land availed themselves of the voluntary agreements and other ordinary laws of the land. Even from the occupational test, which pays more attention to the impersonal than to the personal aspects involved, the denial of relief to Jenmies, Zamindars and Inamdars who pay above a certain sum to the Government is not based on correct principles of economics. From this standpoint, there is no case for excluding produce-sharing tenants and labourers. In the Tanjore district and other southern parts of the Presidency there are a large number of absentee landlords who lease out their lands and spend their time in the town. While this class of landowners is relieved, there is no justification for excluding Zamindars and Inamdars. To avoid this anomaly an upper limit is essential.

Where are we to draw the line between the big and the small landowners? An investigation by Mr. Sathiyathan, into 564 families throughout the Presidency has given the following results.

	No. of families	Extent of holdings and lands taken on lease	Assessment paid	Total Debt	Debt per head	Debt per Re. of assessment	Debt per acre	Debt per family
		Acs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Farm labourers owning no lands and paying no assessment or rent	23	..	..	1,739	15	..	..	76
2. Registered landholders and tenants paying land revenue of Re. 1 to Rs. 100	306	4,483.03	11,143-8	3,23,438	211	72	29	1,057
3. Registered landholders and tenants paying land revenue or rent of Rs. 100 & above	235	24,738.0	1,35,453-4	10,79,186	918	44	8	4,592

Similar results have been arrived at by an investigation conducted by us in some of the villages of the Cuddalore Taluk. Figures given below are only for 50 families in two hamlets of Ellayappenpettai, Cuddalore Taluk.*

	No. of families	No. of members	Assessment	Holdings	Total Debt	Debt per family.	Debt per head	Debt per acre	Debt per Re. of assessment
			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Farm labourers owning no lands	9	62	..	..	932	103-9	15	..	..
2. Registered landholders paying a land revenue between Re. 1 to Rs. 100.	38	223	473	170	16,322	430-0	73	96	35
3. Registered landholders paying a land revenue above Rs. 100 ..	3	20	395	99½	1,900	633-0	95	19	5

*Figures calculated from the Survey conducted in Cuddalore Taluk by Dr. B. V. Narayanaswamy Naidu and P. Vaidyanathan in June, 1938.

The burden of debt should not be determined merely by a reference to the amount borrowed; for a man with a larger amount of debt may not feel the burden so much as a man with a smaller amount. For the one may be rich while the other poor. The burden of debt is, therefore, to be judged by a comparison of indebtedness to assets. Judged from this standard, both Mr. Sathyanathan's figures and the figures collected in our survey lead us to the same conclusion that the most hard hit are the small and medium land-holders paying a land revenue between Re. 1 and Rs. 100. While debt per acre and per rupee of assessment of this class according to our survey is Rs. 96 and Rs. 35 respectively, for those paying a land revenue of Rs. 100 and above the corresponding figures are only Rs. 19 and Rs. 5. But if we take into consideration debt per head, they give a false idea of the position. In fact, the position is reversed. Debt per head for those paying a land revenue of above Rs. 100 is 95, while for those who pay land revenue between Re. 1 and 100 is Rs. 73. So the unwary are liable to be misled. A perusal of the table from Mr. Sathyanathan's report will convince one of the correctness of this conclusion. The small and medium land owning class (paying land revenue between Re. 1 and Rs. 100), who form the largest number of the rural population, have settled on land and are the actual tillers of the soil. It is they who really feel the actual burden of indebtedness. It will not be an exaggeration if we call them the backbone of our agricultural industry. If they are freed, the industry itself will get great relief. When it is said that relief should be given to this class of agriculturists, it does not mean that the big holders are not suffering. They too are badly hit, though not as badly as the small holders. Debt conciliation boards and land mortgage banks are the proper machinery through which they should get relief. The upper limit for this radical measure should be limited to those who pay an assessment of land revenue to Government not exceeding Rs. 100.

Exclusion of Labourers

It is an imperative necessity that the debts of farm labourers should be scaled down. Though their position is not apparently so grave as can be seen from the tables given above, yet even the small debt per head cannot be repaid by them. A special provision should be introduced for wiping off their debts supplementing such a measure by exempting movables, i.e., the materials used in husbandry in addition to dwelling houses, livestock and the minimum produce for subsistence. While there is a case for inclusion of arrears of rent in this Act, the debts of

labourers might have also been included. The Premier promised to introduce a separate measure for the purpose at the earliest opportunity.

Sanctity of Contract

Too much emphasis has been placed on the sanctity of contract. It is said that any legislation that destroys this sense of sanctity of contract destroys the roots of social life. But it is an important fact that justice is the basis of contract and in the relation between debtors and creditors, where an unconscionable rate is charged by the debtor, the sacredness of the contract vanishes into thin air. The debtors and creditors have never been on equal terms and all the Governments of the World have in one way or another violated this principle. The various relief measures in many foreign countries are examples of the violation of contracts. Even in India the rate of interest was always regulated and laws were passed to enable courts to reopen old transactions. The Deccan Relief Act in many ways transgressed this principle of contracts. The return from agriculture varies from 2 to 5%. To borrow for that industry at a rate ranging from 6% to 50% is very bad economy indeed. If violation of the contract is unjust, the usurious rate of interest is criminal and suicidal. A revision of contract with every change in the volume of money is necessary. Even nations were obliged to violate contracts entered into when, owing to various economic causes, they were unable to respect such obligations. What is true of nations is true of individuals also. After all, men are responsible for these contracts and when these contracts threaten the economic position of the individuals, it is but right that these contracts should be abrogated. So there is a justification for the Debt Relief Act.

The Post and Pre-depression Debts

Not only the most contentious but the most important clauses in the Act are clauses 8 and 9, which provide for the compulsory scaling down of debts and wiping out of arrears of interest. Before proceeding to discuss the provisions it is necessary to see what kind of debts compose the major portion of the indebtedness of the agriculturists. In discussing the causes of indebtedness it has been proved conclusively that ancestral debts form the highest percentage of the volume of debts as compared with other debts. (vide figures given from the survey of the villages in the Cuddalore Taluk p. 67). Statistics given below regarding the purpose of borrowing from three different sources will corroborate the truth that ancestral debts are the heaviest burden on the agriculturists

and will also support the account given from an investigation in the Cuddalore Taluk.

TAMARAIPATTI VILLAGE—MADURA TALUK*

<i>Debts classified according to purposes</i>	<i>Rs.</i>
Cultivation Expenses	.. 4,950
Purchase of Bulls	.. 7,010
Purchase of lands	.. 8,825
Improvement to lands	.. 1,100
<i>Discharging prior debts</i>	.. 37,225
Building new houses	.. 11,100
Family expenses	.. 11,810
Litigation expenses	.. 1,000
Trade	.. 2,000
Purchase of a motor car	.. 2,500
Payment of kist or lease amount	.. 1,110

SIVAPURI AND GAVARAPET VILLAGES—CHIDAMBARAM TALUK**

<i>Purposes of borrowing</i>	<i>Amount</i>	<i>Percentage</i>
Maintenance	.. 4,925	11·16
Purchase of lands	.. 9,900	22·43
Agricultural Improvements	.. 2,960	6·71
Purchase of cattle	.. 460	1·04
Land revenue	.. 690	1·56
<i>Liquidation of old debts</i>	.. 10,450	23·68
Marriage and funeral	.. 3,705	8·04
Education	.. 2,700	6·12
Interest payments	.. 850	1·93
Medical	.. 169	0·39
Current interest due	.. 6,025	12·65
Miscellaneous	.. 1,295	2·93

* The Madras Provincial Banking Enquiry Committee Investigators' Report.

** The Problem of Rural Indebtedness—Dr. B. V. Narayanaswamy Naidu and Mr. V. Venkataraman.

RESULTS OF 141 SELECTED VILLAGES IN THE MADRAS
PRESIDENCY *

Purposes of borrowing	Amount.	Percent.
	Rs.	
Marriage and other ceremonies ..	18,80,761	10·5
<i>Payment of prior debts</i> ..	44,85,400	25·1
Land Revenue ..	5,84,173	3·3
Relief of distress ..	10,88,377	6·1
Agricultural expenses ..	17,87,457	10·0
Improvements to land ..	7,88,709	4·4
Education of children ..	2,47,337	1·4
Trade ..	23,01,937	12·9
Purchase of land ..	24,74,715	13·8
Construction of houses ..	10,08,416	5·6
Other expenses ..	12,38,384	6·9
Total	178,85,666	100

The following table prepared from Mr. Sathyanathan's Report gives an idea of the number of cases in which lands were sold or money was borrowed for different purposes. The figures are for the years 1930-34 taking two typical villages for each district of the Presidency except South Kanara and Malabar.

* *Report on Agricultural Indebtedness*—W. R. S. Sathianathan.

Year.	Agricul- tural purposes.	Trade	Kist.	Marriage expenses	Discharging of old debts.	Other purposes	Purposes not ascertain- able.
1930:							
Sales	..	72,705	21,413	5,424	24,743	10,67,453	1,38,475
Borrowings	..	66,575	46,802	2,656	33,042	8,25,425	1,60,630
1931:							
Sales	..	22,742	5,314	1,380	10,109	13,84,426	70,306
Borrowings	..	31,406	66,182	1,577	17,934	8,85,695	85,592
1932:							
Sales	..	43,941	16,046	5,091	11,966	15,29,892	92,063
Borrowings	..	46,831	38,798	1,115	32,988	7,64,965	96,878
1933:							
Sales	..	46,290	17,662	8,803	11,940	13,54,389	61,546
Borrowings	..	29,064	27,231	3,049	24,492	6,40,839	1,32,634
1934:							
Sales	..	33,218	11,473	3,539	22,805	1,15,236	72,816
Borrowings	..	70,664	27,934	975	27,667	6,36,660	75,099

The number of sales and the number of cases in which money was borrowed by mortgaging property or through promissory notes are disproportionately large in the discharging of old debts when compared with other purposes of borrowing. Extreme pains are taken to show that ancestral debts form the largest proportion; for, then only there is a justification for Clauses 8 and 9.

In the scaling down of debts the Act draws a line at 1st October, 1932 to divide pre-depression from post-depression debts. It is often asked, what is the sanctity of the date 1st October, 1932? There is every justification for fixing that date as the dividing line. The following index numbers of wholesale prices in the Madras Presidency will clarify the point.*

Year.		Rice	Groundnut.	Cotton.
1928-29	..	100	100	100
1929-30	..	90	85	85
1930-31	..	72	55	62
1931-32	..	60	63	56
1932-33	..	56	59	57
1933-34	..	48	39	58
1934-35	..	56	57	63
1935-36	..	59	58	62
1936-37	..	56	62	60

The effect of the depression began to be felt in 1931. It reached its lowest point in 1934-35. As the effect of a pricefall is not immediately felt the year 1932 may safely be taken as the dividing line of pre-depression from post-depression debts.

But the principle adopted in the scaling down of debts is the principle of 'damdupat' which says that when a creditor receives twice

* Dr. P. J. Thomas, *Hindu*, January 28, 1938.

the amount of principal by way of principal or interest towards debts contracted before 1st October, 1932, the whole of the debt will be deemed to be discharged. Thus the principle of 'damdupat' which is intended to be applied in the case of usurious rates of interest is wrongly applied to slump in prices. If scaling down of debts is to be related to fall in prices alone, a ratio between prices and debts should be established and on this basis debts should be scaled down. This has been the principle in some foreign countries. But in Madras it has been proved conclusively that ancestral debts with usurious rates of interest are the heaviest burden on the agriculturists. If this burden is to be removed, the principle of 'damdupat' should be correctly applied.

The second class of debts—the post depression debts—are dealt with differently. In the case of these debts past payments in excess of 5% interest shall go to cover only arrears of interest and not principal though the Select Committee recommended that it should cover the principal also. Here again, it is difficult to relate the reduction of interest to any principle. It has no relation either to changes in the price level or capacity to pay. Moreover, the rate of interest for all future debts is 6¼% and as prices are gently rising there is no justification for a lower rate of interest fixed for post-depression debts.

The scaling down of debts on the basis of slump in prices can be justified if the scaling down were to be followed by immediate discharge of the debts. But in the absence of any such facilities, debtors will be put to great hardship. For creditors may wait for a rise in prices or they may press for immediate settlement of debts by taking over the lands of debtors. This can, to a certain extent, be mitigated, if provisions are made to transfer lands to creditors at the pre-slump prices and to exempt a minimum holding in the case of agriculturists who cultivate their own lands.

But as there are many difficulties in the way of scaling down debts in relation to fall in prices, and as conditions in Madras are favourable mainly for the application of the principle of 'damdupat', it will be right to revert to the principle of scaling down embodied in the original bill. It may be laid down that all debts contracted before 1st October, 1937, and which carry more than 5% interest simple or compound shall be scaled down on the basis of the principle of 'damdupat.' For all debts contracted after that date and for all future debts the rate of interest shall be 5% and not 6¼% as is laid down in the Act. The Government should

have power to change the rate of interest whenever very bad seasons occur. The merit of this principle is that a large amount of old debts will be wiped out and the agriculturist will be very much relieved.

Future Interest

The power of the Provincial Government to change the rate of interest from time to time is viewed with suspicion. It is feared that it would introduce an element of uncertainty in credit. The principle that a Central Bank or a Reserve Bank should regulate the bank rate and the rates of the money market is correct. The Government should not interfere in the regulation of such rates. But this principle can be applied in India only to organized credit institutions. The money-lenders in the villages who have no connection with the money market and who have no knowledge of the principle of the money market continue to charge usurious rates of interest. Their rates of interest are not affected either by the rate in the money market or by fall or rise in prices but only by the personal character of the man. Such usurious rates can be regulated only by executive fiat and the Act rightly allows the Government to fix the rate from time to time.

Arrears of Rent

These form the third class of debts that are scaled down by certain clauses in the Act. Relief that will be given to the tenant will not be immediate because the prompt payment of rent for fasli 1347 and 1346 before 30th September, 1939 is a condition for wiping out of arrears of previous faslis. It is curious that while the same principle for the prompt payment of scaled down debts is not adopted in the case of ryotwari landowners, such a principle is applied to the poor tenants on the ground that if arrears were wiped out unconditionally, current and future rents would not be easily realized. Moreover, this provision is not related either to fall in prices or capacity to pay. A recalcitrant tenant who can pay his old arrears will refuse to pay them when once he pays the dues for faslis 1346 and 1347 within the due date. A poor tenant who has not the capacity to pay the rent for the two faslis (1346 and 1347) is pressed hard for his old arrears. Thus great hardship is caused to poor tenants by this clause.

Co-operative Societies and Joint Stock Banks

The exclusion of the Co-operative Societies is a right move on the part of the Government. Co-operative Societies are associations of borrowers themselves and their object is the advancement of the members and not the earning of usurious rates of interest by exploiting the borrowers. But in the case of credit by money lenders the interests of lender and borrower are in a manner opposed and the special interests of these men are the exploitation of borrowers for the sake of private gain. If only the Act had included the Co-operative Societies, it would have defeated its own purpose. Moreover, the recent policy of the Co-operative Department is the introduction of controlled credit in the societies in order to improve the repaying capacity of the agriculturists. The inclusion of these societies will result in a set back to agriculture. The Registrar of Co-operative Societies has already issued a circular to all co-operative institutions that in respect of D-class societies no member shall be asked to pay more than double the principal originally borrowed by him; no member shall pay more than the principal plus interest calculated at $6\frac{1}{4}\%$ from the date of the disbursement of loan; and that 25% of the amount outstanding now may be remitted. Simple interest at $6\frac{1}{4}\%$ is charged on awards by arbitrators on outstanding loans. But the Registrar's proposals are not mandatory and some central banks and co-operative societies have not given effect to his suggestions. The matter can be set right if the Registrar or the Provincial or the Central Bank enforces these proposals on the societies.

While there was a great agitation for excluding joint stock banks with less than 500 share-holders from the Bill, the Government amendment limiting the exemption only to scheduled banks was a great shock to many banks and individuals. A large number of funds, *nidhis* and small banks are relegated to the same position as the private money-lenders are. In the finance needed to raise crops, these institutions form an important link in the chain of rural credit. If institutional credit is to be preserved, these institutions should be exempted. To prevent a few big money lenders forming themselves into joint stock banks a limit may be placed on the number of share-holders. But that limit should not be so high as 500. The provision that past payments in the case of post-depression debts will be appropriated only to interest, has to a certain extent mitigated the serious wrong done to these institutions.

Some Minor Criticisms

A beneficial feature of the Act is that some women who live solely on a small amount within Rs. 3,000 lent out, are exempted from the provisions of the Act. Orphans and infirm men are in the same position as these women are and they should also be exempted. The Act does not touch usufructuary mortgages. It is but just that when a person enjoys the property for twenty years for the sums he has lent out, the mortgagor should get back his property and the whole amount should be deemed to have been discharged. In the tenancy legislation of some provinces, provision is made more or less on the above lines for the discharging of arrears. The Zamindar will be in possession of the lands of the occupancy tenant for some years in lieu of the arrears of rent. After that period, lands will be returned to the tenant and the arrears will be wiped out. No provision has been made to save the debtor from being sold up. As has been already pointed out, a minimum holding should be exempted from being attached and a schedule of prices should be prepared at which alone lands could be sold. The Act has no provision to afford relief to the large number of insolvents. The present law of insolvency is so hopelessly complicated and expensive that few agriculturists can take advantage of it to avoid harassments. Provision should be made in the Act for a certain minimum of produce or lands for the subsistence of the insolvent debtor and his family.

Future Credit.

The first effect of the Act will be a drastic curtailment of credit and the seasonal agricultural operations will suffer through the drying up of credit. During the survey of some of the villages in the Cuddalore Taluk, it has been found that a good number of agriculturists have left their lands fallow on account of their inability to get credit. Conversation with the village folk of Ellayappanpettai has revealed that the society in Kurinjpady under whose jurisdiction they came was very shy to lend them. The collection of kist became very difficult in the villages. A sowcar in Kurinjpady said that business became very slack after the Debt Relief Act. Even the sowcar thinks twice before he lends out. The Revenue Inspector of Kurinjpady received as many as 15 applications for taccavi loans during the course of 15 days in the month of May. This is a very uncommon feature ordinarily. An inspection of the taccavi loan ledger in the Chidambaram Taluk Office clarifies certain doubts.

TACCAVI LOANS GRANTED BY THE REVENUE DEPARTMENT
IN THE CHIDAMBARAM TALUK

Fasli or year.	Applications received.	Number sanctioned	Number rejected
1344 (1934-35)	9	4	5
1345 (1935-36)	3	1	2
1346 (1936-37)	8	2	6
1347 (1937-38)	10	Under con- sideration 1	
1348 (1938-39) from 3-7-1938 to 20-9-38	15	3 under considera- tion	12

Chidambaram being a wet area, taccavi loans are not popular. In spite of it the number of applications received for only two months after the passing of the Debt relief Act is nearly double the number of applications received in previous years. We are not concerned here with the rejection of the number of applications or the amount sanctioned. The large number of rejection may be attributed to the inherent defect of the Land Improvement and Agriculturists' Loans Act and the administrative difficulties felt by the subordinate officers. We are interested only to show that due to the shrinkage of credit supplied by money lenders there has been a rush even to the unpopular taccavi loans.

An inspection of the loan ledger of the Chidambaram Loan and Paddy Sales Society supplements this evidence—

Village Centres	Amount of loans granted 1937 (January to December)			Amount of loans granted 1938 (Jan. to November).		
	Rs.	A.	P.	Rs.	A.	P.
1. Kattumannarkoil ..	740	0	0	2,795	0	0
2. Vilakam ..	3,330	0	0	7,620	0	0
3. C. Sathamangalam ..	1,150	0	0	1,960	0	0
4. Orathur ..	1,610	0	0	5,419	0	0
5. Maduranthakanallur ..	3,599	0	0	6,077	0	0
6. Maiyathur ..	1,895	0	0	2,802	0	0
7. Naivasal ..	2,662	8	0	1,854	0	0
8. Lakshmigudi ..	4,378	0	0	4,560	0	0
9. Keelnedumbur ..	3,507	0	0	4,347	12	0
10. M. Odayur ..	5,548	0	0	7,523	0	0
11. Suravilandur ..	6,474	0	0	3,875	0	0
Total .	34,893	8	0	48,832	12	0
11. New centres started in 1938 .				20,199	0	0
Grand Total	34,893	8	0	69,031	12	0

This feverish increase in the amount of loans advanced cannot be attributed merely to the expansion of the activities of the Society. If it had not been for the Debt Relief Act, the amount of loans advanced this year would not have doubled. From the figures derived from this Society it cannot be generalised that there is a great turnover of business in the Co-operative Societies. In fact, examination of some of the societies in the Cuddalore Taluk gives a contrary result.

Facts have proved that there is a shrinkage of credit supplied by money lenders. The question arises whether it is beneficial to the agriculturists. To a certain extent shrinkage of credit will do some good to the improvident agriculturists. But when the co-operative societies and other small banks restrict their credit, then the agriculturists will be at a loss to find money for the seasonal needs of agriculture. To that extent the repercussions of a shrinkage of credit are detrimental to agricultural production. So it is the duty of the Government to rectify the Co-operative movement and consolidate their position in order to enable them to meet the increased demands on their resources.

It is often said that the funds of moneylenders would not be kept idle but would soon find an outlet. Those who are eager to invest will invest their funds in fixed capital in urban areas. Investment in banks, especially at a time when there are bank failures, will not be popular. Many illiterate ryot moneylenders will begin to hoard or buy lands. When the investor becomes a burnt cat, it will take a long time for him to recoup and one cannot expect the money lender to lend easily to the agriculturist in the near future. In many cases the poor agriculturist who is in dire need of credit will conspire with the money lenders to evade the law. Investigation in some of the villages has brought to light cases where the professional money lenders execute pronotes with statutory rate of interest but pay the agriculturists only half the sum mentioned in the bonds. It is doubtful whether pawn-broking comes under the scope of the Act. A number of families has pledged their jewels with the sowcars of Kurinjipady for small sums which carry very high rates of interest.

Repayment of Scaled Down Debts.

One of the most sensible criticisms of the Act is that there is no provision to enable the agriculturist to repay his scaled down debts. While on the one hand the creditor who is adversely affected is not redressed by immediate payment of the scaled down debts, on the other, the debtor will be harassed by the infuriated creditor who will prefer claims in the Court against him. Naturally, there will come to stay a large number of landless agriculturists as a result of the Act. A ryot of the Kottavancheri village of the Cuddalore Taluk said, during the enquiry, that the repayment of loans should be based on instalment basis as in the case of land mortgage banks and that the Revenue Department should take the responsibility of collecting the instalments regularly for the creditors as arrears of land revenue are collected. This method would avoid expenses that would otherwise be incurred, if the creditor were to go to a court of law. The Revenue Department is already saddled with much work and cannot go into the affairs of private transactions. Another suggestion is the time limit of one year for the repayment of scaled down debts. After that period, the civil Court on application by the debtor or creditor, shall decide that the debtor shall convey and the creditor shall accept in full satisfaction of the debt such property as is equal in value to the debts due by him. The value of the property is to be decided on a proportion that is fixed in the case of

lands to assessment; in the case of houses and buildings, the net annual rental value taken for the assessment of property tax; and in other cases, the capitalised value of the net income from properties. Where the assets of a debtor are less than his liabilities, the creditor shall accept only such proportion of the scaled down debts that the total assets of the debtor bear to his total liabilities. While this proposal is fine on paper, it does not give an opportunity to the debtor to pay his debts in instalments. The anxiety of the Government to preserve the land from passing on to non-agriculturists will be defeated by this proposal. A proposal is made that the Government should issue bonds to creditors in full settlement of the debts by the debtors and thus transfer the claim on debtors to itself. Debts will be collected in instalments over long periods when the land revenue falls due. But the difficulty is that the entire responsibility of liquidating indebtedness falls on the Government. Huge amounts by way of interest should be paid to bondholders irrespective of the debtors paying the instalments. More than this, it will lead to a prolonged enquiry into each and every case before a settlement is made.

It is gratifying to note that Government is making attempts to organise debt conciliation boards throughout this Presidency to give effect to the relief that is foreshadowed in the Debtor's Relief Act. It is necessary for the Government to issue a notification calling upon all debtors and creditors to file in a prescribed form their claim before the village munsiff of their villages within an appointed date. This will give an idea of the amount of conciliation work that is to be undertaken, the number of centres where they are to be started and the amount of loans the Government would have to supply to the small and medium holders. Suitable amendment should be made in the Debt Conciliation Act if necessary, or rules should be framed both under the Agriculturists' Relief Act and the Debt Conciliation Act to enable the latter to effectively undertake the spreading of relief that is proposed in the former.

The Government has provided a sum of Rs. 50 lakhs in the budget for the disbursement of loans to the small ryots in order to enable them to take full advantage of the provisions of the new Act. Moreover, the Government has increased the guarantee in respect of debentures issued by the Central Land Mortgage Bank to a total face value of Rs. 250 lakhs. This is exclusive of such debentures as the Bank from time to time may redeem. The debentures should be issued for periods not exceeding twenty five years bearing interest at 5% and less. It

is hoped that this will give scope for money lenders to invest their funds in these debentures. This increased guarantee goes a long way in providing funds to the big land-holders to pay off their scaled down debts. But the enormous delay in the grant of loans by land mortgage banks must be ended.

Conclusion

Though the Act needs improvement in many ways, it cannot be denied that this measure is a bold one and unique in its character. But this Act by itself cannot bring about the economic rehabilitation of the agriculturists. Indebtedness is the result of poverty and in turn aggravates poverty. So the curative methods that are adopted should aim at rooting out poverty. In the succeeding chapters it will be shown how multi-purpose co-operative society can, in addition to supplying cheap credit, increase the income of the agriculturists and prevent the debts wiped out from appearing again.

The Madras Debt Conciliation Act of 1936

The question of conciliation of debts has attracted almost all the Provincial governments. The Central Banking Enquiry Committee suggested a vigorous policy of debt conciliation on a voluntary basis. The Government of the Central Provinces and Berar were the first to act on the suggestion of the Banking Enquiry Committee, and in 1933, passed the Debt Conciliation Act. The Punjab, Bengal, Madras and Assam followed suit. The Central Provinces Act is the foundation on which the other acts are based.

Other Provinces

Before discussing the provisions of the Madras Act the position in other provinces may be briefly summarised. The main idea of these acts is that scaling down of debts should take place as a result of mutual agreement between the debtor and the creditor through the debt conciliation boards. The boards in the Punjab and the Central Provinces consist of not less than three members and not more than nine. The members include representatives of creditors and debtors. Revenue Divisional Officers of ripe experience have been appointed as chairmen. The jurisdiction of the Boards is limited in the different provinces, e.g., in the Central Provinces only debtors who do not owe more than Rs 25,000 may apply to the Debt Conciliation Board. In the Punjab the limit is Rs. 10,000. Certain classes of debts are excluded under the Acts.

The Central Provinces Debt Conciliation Act does not exclude rent debts. The Bengal Act includes rent arrears subject to a number of restrictions. The Punjab Act excluded co-operative debts from the scope of the Act while in Central Provinces, Assam and Bengal these debts could be settled with the previous approval of the Registrar in writing. The Punjab Act excluded debts due to banks and debts incurred for purposes of trade by an agriculturist, while Bengal excluded debts due to banks.

A debtor or any of his creditors may apply to the Board appointed for the area in which the debtor resides to effect a settlement. Every creditor is called upon to submit a statement of debts to the Board within a specified period. Failure to comply with this provision will entail a discharge of all debts due to him. The rules regarding applications for debt settlement should be as simple as possible to enable an ignorant and illiterate debtor to furnish the statement with the aid of a scribe. The Bengal Act requires full particulars of the property of the debtor with their value to be given by him in the application which he is not able to fill up in many cases. To check fraudulent practices in the submission of applications, the Bengal Act empowers the Board to dismiss an application if the debtor being a joint debtor or a joint surety wants to defraud his partners in the debt, or if the application includes any claim which is intended to defraud many creditors, or there has been transfer of any property by the debtor within two years previous to the date of such application with a view to defraud any creditor. Before the Board begins its work of settling debts, it should stay the proceedings in the court in respect of such debts. The Central Provinces and the Punjab had not much difficulty in this direction while the village boards of Bengal experienced much difficulty. In the case of agreement in the Central Provinces, 'unless creditors to whom not less than 40% of the total amount of the debtor's debts are owing come to an amicable settlement with the debtor, no agreement can be arrived at between them.' Where the debtor has made the creditor a fair offer which he ought reasonably to accept, the Board may grant the debtor a certificate. The effect of a certificate on a creditor was that the court would disallow costs of the suit, and any interest more than 6% (simple) when the certificate is produced by the debtor. A non-agreeing unsecured creditor could not execute a decree until the amounts recorded as payable to creditors who have agreed have been paid off, or the agreement has ceased to subsist. Decrees for recovery of rent can always be executed. In the Punjab while an improve-

ment was made on the Central Provinces Act by providing for settlement of debts between a debtor and one or more creditors who might not be owing 40% of the debts, it has gone back on the Central Provinces Act by laying down that a certificate could be offered to the debtor only if creditors to whom 40% of the debts are owing have come to an amicable settlement with the debtor. The result was that certificates could not be issued in all cases even if the creditor had refused a fair offer. Bengal has made more stringent offers regarding the effect of a certificate. If a fair offer was not accepted by a creditor, a certificate might be issued to the debtor in respect of the debt to which the offer related. While the effect of the certificate is the same as in Central Provinces, a decree in respect of certified debts could be executed only after the expiry of such period not exceeding ten years specified in the certificate. In Bengal if creditors to whom 40% is owing agreed and the Board agreed that the offer of the debtor was fair, the Board may either pass an order that the debt to which the offer relates should be settled in accordance with such an offer or might issue a certificate. As in the Punjab, the Bengal Boards can grant an award on the basis of an amicable settlement even though the amount of debts settled did not amount to 40% of the total. The Board in Bengal might pass an order even binding a secured creditor to the award even though he might not agree. The interest due might be reduced and the original principal determined. In Bengal and Central Provinces debts incurred by the debtor after his application to the board could not be recovered by execution of any decrees until the award has ceased to subsist or the amounts payable under it have been paid. This incidentally gave creditors in respect of settled debts first charge on the properties of debtors. Another inducement to the creditors is the facility granted to them to recover the instalments through revenue officers. Except in Bengal, where appeals are provided for over the operation of village boards, no appeal or revision of order of the Board is allowed in other Acts. But a Board may review its own order on the application of an interested person or of its own motion. In the Central Provinces and Assam acts, lawyers are not allowed to appear before the Board, while in other acts they are allowed to appear with the permission of the Board.

The Boards have got certain wide powers. They can summon and examine parties and witnesses and call for documents. They can attach the immovable property of a debtor after receipt of his application. "Every transfer of property made with intent to defeat or delay the creditors of the debtor shall be voidable at the option of any creditor so

defeated or so delayed.” (Central Provinces, Assam, Madras and Bengal Boards). The Bengal Act has provision providing for penalties (fining and imprisonment) “for making false statements, for producing false documents, for falsely personating or abetting any punishable act.”

In the Central Provinces, the Punjab and, to a certain extent, in Bengal substantial results have been achieved by working the debt conciliation boards. In Central Provinces, where the greatest success was attained, nearly 50 debt conciliation boards were started and several of them were wound up after finishing their work. The Boards settled 46,537 cases involving an amount of Rs. 5·63 crores till the end of June, 1937. The amount was scaled down by nearly 48%—2·93 crores. The number of boards at work in the Punjab and Assam are five and two respectively. In Bengal the working of the Boards is not smooth and there is very much delay.

Madras Act

In Madras a bill for conciliation of debts was brought about by Mr. Ramalingam Chettiar in 1934, but the Government was not prepared to undertake any such legislation. On the report of Mr. Satyanathan on Agricultural Indebtedness, the Conciliation Bill was taken up and was passed into law. The experience of the working of debt conciliation boards in other provinces was not availed of and the six debt conciliation boards started under the Act in 1937 were not given a fair trial. The Congress Government which introduced the compulsory scaling down of debts by the Madras Agriculturists' Relief Act of 1938 revived the conciliation boards which gave the debtor the right to apply to these boards for a settlement of debts. Ninety-two boards have been formed covering the whole length and breadth of the Presidency so that all debtors may apply to these boards and have their debts scaled down according to the Madras Agriculturists' Relief Act.

The salient features of the Act are as follows. It applies only to agriculturists or occupancy tenants or landholders whose debts are above Rs. 100. Applications for the settlement of debt may be made either by the debtor or creditor. Thus the debtor can get a settlement of all his debts as scaled down by the Agriculturists' Relief Act without proceeding to a Civil Court. Particulars to be stated in the application are not simple and many applications are rejected on this count. An application can be dismissed if the Board does not consider it desirable or practicable to effect a settlement of debts. This section is vague and

under cover of this section the Chidambaram Debt Conciliation Board has rejected 277 applications in 1939 out of 374 applications taken for conciliation.

The procedure followed in the settlement of debts is as follows:— A debtor or any of his creditors may make an application for settlement of the debts giving the particulars mentioned in section 6 of the Act. On receipt of the application, the board fixes the date and place for hearing the application. The necessary notices are sent to the debtor and his creditors and the latter are expected to submit the accounts within two months of the receipt of the notice. Every debt of which a statement is not submitted to the Board shall be deemed to have been discharged. The Board may decide a dispute after taking evidence as to the existence or the amount of the debt due to any creditor or the assets of any debtor. It can summon and examine parties and witnesses who are liable to a criminal charge or to a penalty if they give out false statements. The provisions of the Agriculturists' Relief Act by which the amount due is scaled down statutorily will be taken into account by the Debt Conciliation Board. On this basis, the Board prepares a complete schedule of the creditors and of the assets and liabilities of the debtors. If the creditors to whom more than 50% of the debts are due come to an amicable settlement with the debtor, such settlement will be reduced to writing in the form of an agreement. The agreement will be registered within thirty days by the chairman and it will take effect as if it were a decree of court. It is, however, necessary as in the Punjab to arrive at a settlement with creditors even though 50% of debts are not owing to them. No settlement of a Co-operative debt shall be valid without the permission of the Registrar of Co-operative Societies. When a secured creditor does not agree to the settlement, such settlement will not affect his rights to proceed against the secured property. The Board can issue a certificate to the debtor, if a creditor does not agree to an amicable settlement. If that creditor sues the debtor the court will neither allow him any cost nor a rate of interest in excess of simple interest at 6%. If any creditor sues a debtor for a debt incurred after settlement of the debts, it will not be executed as against the assets set apart in the agreement for the satisfaction of the agreed debts until all amounts under the agreement have been paid. No court can entertain any suit in respect of any matter pending before the Board or question the agreement under this Act. A debtor before the Board cannot alienate his property without the Board's approval.

After the passing of the Madras Agriculturists' Relief Act, the ninety-nine boards spread over the Presidency have no question of conciliating the debts by mutual agreement but only determining the amount due to each creditor in relation to the provisions of the Agriculturists' Relief Act. The boards mainly give effect to the scaling down of debts under the other Act. The working of the Debt Conciliation Act in the whole Presidency cannot be judged so early. But an idea of some of the defects in the Act can be had by studying the working of the Chidambaram Debt Conciliation Board.

The Chidambaram Debt Conciliation Board.

The Board in Chidambaram constituted in the middle of January 1939 began to function from the middle of February. The members of the Board are the Revenue Divisional Officer, who is the chairman and two non-officials, (Dr. B. V. Narayanaswamy Naidu, Professor of Economics, and a lawyer). The total number of applications received in the year was 445 (437 applications from debtors and 8 from the creditors). The debts in almost all the cases were affected by the Agriculturists' Relief Act. The following table will give an idea of the working of the Board for the year 1939.

Applications instituted			Disposed of			Number of sitting
Month	Number	Amount	Rejected Sec. 7 Sec. 9	Agree- ments		
Jan.	..	..	..	..	..
Feb.	6	31516 0 0	..	..	..
Mar.	40	50651 12 6	..	1	..	
Apr.	38	70326 8 2	21	..	..
May	20	16532 13 0	1	1	..	
June	51	73967 3 10	29	6	..	
July	58	131830 3 2	9	6	..	
Aug.	74	86112 4 6	4	24	..	
Sep.	67	137319 10 10	11	10	..	
Oct.	56	67671 10 7	7	37	..	
Novr.	21	59857 15 11	5	73	5	
Decr.	16	34114 3 0	1	114	4	
Total	447*	759900 5 6	88	277	22	

*Only 445 applications were actually instituted but two were once dismissed and restored.

Out of the total of 447 applications received and 374 disposed of, the Board was able to effect an agreement only in nine cases. It means that in other cases the parties had to go to the civil court. Decree holders who had already got decrees and secured creditors also entered into the agreement in these nine cases. The sums involved in all these nine cases amounted to Rs. 7759-6-9 while those in the case of the 447 applications amounted to Rs. 7,59,900-5-6. It is indeed curious that the majority of applications rejected were under section 9 of the Act by which, in the estimate of the Board, conciliation was not desirable or practicable. Perhaps the Board used this clause too often to the detriment of the debtors. The aim of the Board should be to bring together the creditors and debtors by personal appeal. Some cases were dismissed for default or negligence in application and a few cases for want of bonafides on the part of debtors. It is, however, necessary to amend the Act in such a way as to make application more easy. Only in two cases were certificates issued to debtors against creditors who refused a fair offer of settlement. The time taken for the disposal of applications is four months normally and six months at the utmost. Cases are not wanting where debtors have appeared before the court several times before their applications have been disposed of. It must be the policy of the Board to dispose of applications in the first sitting or at the latest in the second. Unnecessary costs are incurred by the ryots in attending the Board several times and in the end they are told that their applications are dismissed. It must be made compulsory for creditors also to attend the Board. For then there is a greater scope for personal influence of the members of the Board playing a part in effecting a settlement. On no account should lawyers be allowed to appear before the Board, as their appearance reduces the Board to the nature of a Civil Court.

In almost all cases, the debtors rushed to the Board only to avail themselves of Section 25 of the Act which enable them to drag on the proceedings in Court and to avert temporarily impending execution proceedings and sales. Moreover, the nature of debts is such that the assets bear a very small proportion to the total debts. It is, however, necessary to introduce insolvency provisions applicable to debtors in the Debt Conciliation Act. Again, secured Creditors should be placed on the same level as unsecured creditors. As the debtors own heavily encumbered property, the secured creditors at present do not want to relinquish their security with the result that the other simple creditors have no means of recovering their amounts. To avoid all these difficulties, drastic

changes should be made in the Debt Conciliation Act or the present Act might be scrapped and Debt Adjustment Courts to deal with debts, scaled down by the Agriculturists' Relief Act, should be started as in the Central Provinces. Such courts will have wide powers in dealing with creditors who are willing to come to terms and, in fact, they will compel the creditors to come to terms. In conclusion, it must be said that compulsion and not conciliation will succeed in the matter of scaling down debts in the Madras Presidency.

MONEYLENDING AND REGULATION OF MONEYLENDING

A survey conducted in the Cuddalore Taluk has revealed that 89% of the borrowings of the ryots was from ryot moneylenders, Saukhars and peasants, 10·3% from Co-operative societies and 7% from Government.* Mr. Satyanathan's figures for the 141 villages surveyed by him are —93% Moneylenders and others, 6% Co-operative Societies and 1% Government. These figures compare favourably with the figures collected in Cuddalore Taluk. So it cannot be doubted that the bulk of the loans to the agriculturists comes from moneylenders.

Who are the Moneylenders ?

It is impossible to arrive even at a rough number of moneylenders in this Presidency, for there is no agency through which such statistics could be collected. Moreover, there are not only professional moneylenders but ryot moneylenders also. In fact, money lending by one ryot to another is very common. The Madras Banking Enquiry Committee said "There are moneylenders everywhere, but it is doubtful whether even half of the moneylending of the Presidency is done by professional moneylenders." The survey conducted in the South Arcot (vide tables 13 to 15) gives us an idea of the number of ryot moneylenders and others who lent out to agriculturists. Out of 31 loans on mortgages both simple and usufructuary in fifty families 30 loans were from ryot moneylenders; out of 55 loans on bonds 45 were from ryot moneylenders; and out of 41 minor loans including hand loans which bear no interest 20 were from the Saukhars. As these figures show, lending from one ryot to another is very common in the South Arcot District. Small traders and merchants also lend to agriculturists. The 'Komattis' (Vaisyas) in the Telugu villages, the oil mongers in the North Arcot, the Vaisya Chettis in the Central and Southern districts and the Mapillas in the West coast lend money to villagers on condition that the produce should ultimately come to them for sale. These petty merchants lend their

* Vide Appendix, Tables 13 to 15.

own capital and occasionally take loans from the indigenous bankers. The Marwaris, who lend money to the villagers on jewels, gold and silver, brass vessels etc. and on pronotes and produce, generally trade on their own capital and occasionally borrow from the more wealthy of their class. These Marwaris have their shops in small towns and market centres. The villagers in the surrounding villages pledge their jewels and utensils with them for loans at very heavy rates of interest. It is very difficult to get any information from these Marwaris. There are about four shops of Marwaris in Kurinjipady and almost all the villagers around this small market centre borrow from these Marwaris on the pledge of jewels.

Kinds of Loans

The ryot moneylenders and other professionals generally lend money on pronotes, personal security or on joint security and on the mortgage of landed property. Pronote debts are to be returned within a short time, generally a year. The rate of interest was generally high, but now the Madras Agriculturists' Relief Act of 1938 has fixed a statutory rate of interest at $6\frac{1}{4}\%$. When the rate of interest was high the ryot was unable to repay within the stipulated time with the result that the interest that accrued at the end of the stipulated period was added to the principal and a fresh bond was executed. In the course of a few years, the debt multiplied itself many times over and ended in a mortgage debt, the debtor mortgaging his lands and houses as security for the loan. Such cases are legion in the South Arcot District, as is revealed by the enquiry in certain villages. The mortgage debt continued for sometime when finally the creditor took the ryot to the court and secured his decree. Eventually, he took possession of most of his lands.

A rough calculation of the lands that have changed hands in the Madras Presidency between 1931 and 1934 has been given by Mr. W. R. S. Satyanathan in his Report on Agricultural Indebtedness in the Madras Presidency. As already described in Chapter 3 on Indebtedness, the total number of acres which changed hands in two typical villages in each district of the Madras Presidency except Malabar and South Kanara between 1931 and 1934 is 23,932 acres. Mr. Satyanathan says "there are 21,631 ryotwari villages in the twenty five districts of the Presidency. The average number of ryotwari villages per district may be taken to be 865. So the total ryotwari area that changed hands

from 1931-1934 for the Presidency except Malabar and South Kanara may be roughly calculated as 10,351,000 acres." About 20% of this, according to his calculations, went to non-agriculturists. He reckons that a good portion of this went to moneylenders.

Moreover, the mode of keeping accounts is very unsatisfactory. Usually no receipts are given to ryots for repayment of loans. They are generally noted in the pronotes. Certainly there is nothing to prevent them from noting them. During the survey in South Arcot District it was found that many ryots were unable to give the exact figures of their debts including principal and interest. They were able to give only the original sum borrowed years ago and the renewals of the bonds at intervals. They were not able to produce any receipts for the payments they had made. In effect, the poor agriculturist who once contracted a debt always found himself in debt and never got out of it.

The Rate of Interest.

Among the system of mortgages there are two kinds, the simple mortgage which bears a rate of interest and the usufructuary mortgage which does not bear interest, but the benefits of the property (which is the security for loan) are enjoyed by the moneylender. Both simple and usufructuary mortgages are common in South Arcot District, but the former is more popular. The rate of interest that is commonly charged by the moneylenders on simple mortgages, according to the survey, varies from 10 to 18%, but 12% rate of interest is very common. Thus, out of 17 cases of simple mortgage 11 cases bear an interest of 12%.* According to Mr. Sathyanathan's survey in the whole of the Presidency the most common rates of interest range from 9 to 12%. The Madras Banking Enquiry Committee Report examined the rate of interest for 100 mortgages every third year between 1887 to 1929 and found that the number of mortgages at 12% remained constant. Mortgages registered in the Sub-Registrar's Office, Chingleput between 1887 to 1929 showed that the number of mortgages between 11 and 12% was the largest.** The Report of Investigators of the Madras Banking Enquiry Committee arrives at the same conclusions. The Madras Banking

* Appendix II, Table 13.

** Report of the Madras Banking Enquiry Committee, p. 223.

Enquiry Committee gives the rates of interest prepared from settlement reports in the following districts:—

		Rates of interest.
<i>Tanjore District :—</i>		
Secured debt	..	9 to 12%
Unsecured debt	..	6 to 24%
<i>Trichinopoly District :—</i>		
If borrowed from ryots	..	12%
If borrowed from moneylenders	..	18%
<i>East Godavari, West Godavari, and Kistna :—</i>		
Mortgages of immovable property	..	9 to 12%
Pledge of movables	..	12 to 15%
Unsecured loans	..	12 to 18%
<i>Bellary and Anantapur Districts :—</i>		
Black cotton soil taluks of Bellary and Anantapur.—		
4% of the amount of debt	..	6% and less
22% do.	..	6 to 9%
44% do.	..	9 to 12%
23% do.	..	12 to 18%
3% do.	..	18 to 24%
Red soil taluks of Bellary District.—		
57% of the secured debt	..	12% and less
3% do.	..	24% and more
80% do.	..	12% and less
1% do.	..	24% and more
Red soil taluks of Anantapur District.—		
70% of the secured debt	..	} 12% and less
80% of the unsecured debt	..	
12% of the secured debt	..	} 12 to 18%
15% of the unsecured debt	..	
2% of the secured debt	..	} 18 to 24%
2% of the unsecured debt	..	

The Madras Banking Enquiry Committee gives also the rates of interest claimed in suits in courts in six districts and the greatest number of suits claimed a rate of interest between 12 to 13%.* These conclusions derived from different methods and at various periods point out that the general rate of interest on mortgages is 12%.

The rate of interest on Bonds, according to the survey in the South Arcot District, varies from 12 to 24%. Twelve percent and eighteen

* Report of the Madras Banking Enquiry Committee, pp. 226-227.

percent rates of interest are common. (Appendix II-Table 14). The rates of interest of unsecured debts according to settlement report (table given above) range from 6 to 24% in Tanjore, 12 to 18% in East Godavari and 12% and less in Bellary and Anantapur districts. According to Mr. Sathyanathan's Report the ryot moneylender charges between 9 to 18% and a penal rate from 18% upwards for default in payment of interest. At every renewal—normally once in three years—the unpaid interest is added to the principal. Thus compound interest with three year rest is charged.

The rates of interest of the Marwaris vary according to the demand for money, the value of the security offered and the personality of the borrower. For example, a rich mirasdar will get a loan on the pledge of jewel for a lower rate of interest than a poor ryot. According to the Madras Banking Enquiry Committee Report "The smallest of these moneylenders operate among workshop coolies, railway employees and the like, lending petty sums at rates varying from 20 to 150 per cent. With the development of his business larger loans are given at more reasonable rates which vary usually between 12 and 24%." Mr. Sathyanathan said that the Marwaris charged from 18 to 50% simple or compound interest and often more, and their operations were distinguished by the most hard-hearted ruthlessness. During the survey in the Villages of the South Arcot District, it has been found that the Sowcars of Kurinjipadi usually charged between 18 to 37½% but 9 pies for a rupee for a month or 56¼% was not uncommon. (Appendix II-Table 15). A loan secured on gold should necessarily bear a lower rate of interest but the sowcars charge the highest rate because of the borrowers' urgent need. Enquiry in the villages has shown that in most cases the jewels were not redeemed because the high rate of interest soon mounted up and made it impossible for the poor ryots to redeem the jewels.

Some Natukkottai Chettiers lend money on what is known as the kandu, kist or thandal systems. In this system, the interest is deducted in advance and the amount is repaid in equal instalments either daily, weekly or monthly. As no rebate of interest is allowed on the principal repaid, the rate of interest works out to a much higher figure.

Another kind of moneylending which reduces the poor agricultural labourer to life long serfdom is prevalent in most of the districts of the Madras Presidency. The landlord lends a certain sum of money—usually Rs. 100 to Rs. 200—to an agricultural labourer who undertakes to

serve the landlord till such time as he returns the money. The service he does covers the interest for the loan and the wages he gets are below subsistence level. The result is the labourer could never hope to get the sum he borrowed from his master and is bound to him for ever and thus loses his opportunity to get work anywhere he likes at terms favourable to him.

Considering the return from agriculture, the rate of interest paid on the capital used by the agriculturist is usurious. It is correct when Mr. Sathyanathan says "It is obvious therefore that lending to the average agriculturist in India at rates, which exceed 6 per cent simple interest per annum, must be regarded as usurious, whoever the creditor may be." During the economic depression the income from land almost dwindled to nothing and the rate of interest on the working capital was really burdensome. The necessity for lower interest rates and scaling down debts has already been stressed in the previous chapter. Both by voluntary methods—debt conciliation boards—and compulsory measures—The Madras Agriculturists' Relief Act—the rate of interest has been fixed at $6\frac{1}{4}\%$ per annum on a loan taken by an agriculturist. The effect of the compulsory measure in Madras has already been discussed. There was a sudden shrinkage of credit and in many cases the poor ryot in dire need of money colluded with the moneylenders to evade the law. Cases were brought to light where the moneylenders executed bonds with the statutory rate of interest but paid the agriculturist actually only half the sum mentioned in the bonds. Such practices can be easily put an end to.

Regulation of Moneylending.

The most important measures in the matter of regulating moneylending—the Madras Agriculturists' Relief Act (which laid down that any rate above $6\frac{1}{4}\%$ to the agriculturist was usurious and unlawful) and the Debt conciliation Act (which sought to reduce debts and interest through conciliation boards)—have been discussed in the previous chapter.

The Usurious Loans Act of 1918:—Before 1855 regulations in Madras and some other provinces fixed the maximum rate of interest at 12%. Usury laws were repealed in that year and the Hindu law of Damdupat was not followed. The agreed rate between the parties had to be decreed. On the recommendation of the commission appointed in 1891 to enquire into the working of the Deccan Agriculturists' Relief

Act, the Government of India amended the Contract Act in 1899 declaring void contracts in which undue influence was exercised or unconscionable transactions were entered into. As the contract Act was not of much use against the abuses of moneylending, the Madras Government pressed for some legislation in 1906 against exorbitant rates of interest. Some of the suggestions are that the rates of interest should be statutorily limited, that the principle of Damdupat should be embodied in law and that the courts should have powers to reopen the accounts and determine the original principal to be paid. In 1918 the usurious loans Act was passed. A debtor could not get relief under this Act except by driving the creditor to court by refusing to repay. He could not sue the creditor for accounts and for redemption of mortgages. The Act was amended in 1926 enabling a debtor to apply for redemption of mortgages. Under the Act, the court might reopen a transaction, if, in its opinion, the interest was excessive or the transaction between the lender and borrower substantially unfair. In deciding excessive interest and unfair-transactions, the criteria for the guidance of the courts are "(1) the risk taken by the creditor, including the presence or absence of security and the financial condition of the borrower, (2) the various other charges besides interest made by the creditor, such as charge, in money or in kind, for expenses, inquiries, fines, bonuses, premia and renewals, (3) the compound interest if any, charged, and (4) all the circumstances attending the loan including the need of the debtor." According to the Act decreed amounts could not be reduced. "Where a bond was overwritten and there was failure of consideration, the court was helpless, unless extraneous evidence was strong enough to prove what was actually lent." These set a limit to the reopening of accounts. Accounts might be reopened upto a period of twelve years from the date of transactions even in the case of renewed loans. The excess over the fair rate of interest already paid would be adjusted to the principal and any overpayment would be refunded to the debtor. The court was also empowered to set aside, revise or alter any security given or agreement made in respect of a loan. But the conditions imposed on the determination of a fair transaction nullified the application of relief clauses to the debtors. Again, the debtor cannot sue the creditor for accounts according to this Act. A debtor can sue only for redemption of mortgages. The Madras Agriculturists' Relief Act, which replaces the Usurious Loans Act in many respects, does not provide for the suing of accounts and thus prevents the debtors from applying to the court for getting the relief provided in the Act.

Mr. Sathyanathan, in his inquiry into the working of the Usurious Loans Act, was supplied with figures by District Judges regarding the interest awarded in cases that came before them. A uniform procedure is not followed in all the cases. Mr. Satyanathan says "The number of cases, in which the usurious loans act has been applied, forms a ridiculously low proportion of the total number of cases dealt with. The decisions as to what is usury and what is not, seem fickle and uncertain and the rates of interest eventually allowed vary from 30% to 6%. I am compelled therefore to conclude that the decisions have not always been arrived at on definite principles of law, but somewhat perhaps according to the individual personality of the presiding judges.....in cases where the defendant does not appear and is therefore declared *exparte*, the interest claimed is never questioned by court, however high it might be. It is an established fact that such defendants, being hopelessly poor and despondent, seldom contest the claims of their rich and powerful creditors, who invariably engage good lawyers to represent them. I am led to believe further that the amount of principal claimed and recorded in the pronotes or registered documents is never questioned by the courts in any suit, although it is well known that the borrower very often does not get the amount recorded in the documents. The worst of it is that interest is calculated on fictitiously recorded principal amounts, thus enhancing the rates of interest to an enormous extent." The above quotation gives a very good idea of the unsatisfactory way in which the Usurious Loans Act is worked.

The Madras Banking Enquiry Committee Report, the Central Banking Enquiry Committee Report and Mr. Satyanathan's Report are of opinion that no definite statutory rate of interest should be fixed. In discussing the Madras Agriculturists' Relief Act in chapter 5 we have pointed out how the fixing of such a maximum limit was beneficial to the agriculturists and a step in the right direction.

Regulation of Accounts

The Punjab Regulation of Accounts Act of 1930 was the first of its kind in British India. Almost all the Provinces have passed laws on the basis of the Punjab Regulation of Accounts Act. In Madras also the Madras Debtors Protection Act of 1935 regulates moneylenders accounts in a very restricted sphere. In fact, that Act is almost a dead letter. The Government that brought in

the Agriculturists' Relief Act was planning to introduce a Moneylenders' Bill for the regulation of accounts and of moneylending in general; but owing to a deadlock in the constitution nothing was done.

The main provisions of the Punjab Regulation of Accounts Act are that moneylenders or shopkeepers who advance loans in money or in kind at interest should keep an account for each debtor and send him every six months "a signed statement of the accounts, distinguishing between principal and interest and detailing all the loan transactions of the past six months. If a separate account is not maintained for a debtor, the creditor, on suing him, is liable to lose his interest and will in any case not be awarded his costs."

Briefly stated, the provisions of the Madras Debtors' Protection Act are as follows:—Explaining the term 'loan' the Act says that it means "an advance of money or in kind at interest, being for a sum, or being of value, of less than five hundred rupees at a time in any one transaction and includes any transaction which the court finds in substance to amount to such an advance but does not include (sub-section 7 of Sec. 2). Thus a loan above Rs. 500 cannot come under the Act. But this Act, unlike other acts, requires pawnbrokers also to keep accounts noting the details of the article pledged, the time agreed for redemption, the name of the pawner and the name of the owner of the article. A copy of the entry in such account should be delivered to the pawner on payment of the prescribed fee. Just as in the Punjab Act, every creditor is to maintain an account. In addition the Madras Act requires the creditor to record the rate of interest charged on the loan. But the statement of accounts should be furnished to the debtor only if he asks for it, on the payment of the prescribed fee. Failure to maintain accounts or give receipts or statement of accounts on demand will result in the waiving of interest during the period of default and the disallowance of cost in suits by creditors. It was laid down that if the interest charged exceeded 9% simple interest in the case of secured loans and 15% in the case of unsecured loans the court would presume for the purposes of sections 3 and 4 of the Usurious Loans Act that the interest was excessive and the transaction substantially unfair. But sections of the Usurious Loans Act can be applied by the court even though the rates of interest may be less than those prescribed by this Act.

It is, however, necessary that the limit of Rs. 500 placed on the loans that could come under this Act should be abolished. As in the Punjab and in some other provinces, the creditor should necessarily send a half-

yearly statement of accounts to each of his debtors showing the total interest and principal due separately and all the transactions relating to the loan in the previous six months. The debtor should be allowed to sue for his accounts. This provision may be avoided if inspectors and auditors are appointed to examine the accounts of the moneylenders periodically. As Mr. Sathyanathan says, this Act "should be brought prominently to the notice of the public at an early date, and that the attention of all Civil Judges should be drawn to its provisions."

Insolvency Laws

The cry of the moneylender is that the insolvency acts are used often by the dishonest debtors to evade payments and that this is facilitated by the delay in liquidation proceedings by the official receivers. The Madras Banking Enquiry Committee recommended that the official receivers and assignees should be permanent salaried government officers and that the insolvency cases should be dealt with more expeditiously by civil courts. In this connection, it must be emphasised that a simple rural insolvency act should be introduced to enable the poor villagers to make immediate use of that Act. The present insolvency act is so complicated that the poor peasants are unable to take protection under this Act.

Both the Madras Banking Enquiry Committee and Mr. Sathyanathan's Report give figures to show the inordinate delay of proceedings in courts and the delay in execution. Mr. Sathyanathan was supplied with figures by judges in thirteen districts. A summary of the figures is as follows:

Year.		Average duration of suits (days)
1930	..	397
1931	..	574
1932	..	384
1933	..	322
1934	..	489

The figures by the Madras Banking Enquiry Committee are interesting—

		Average number of days.	
		Contested suits.	Uncontested suits.
Sub-Courts	..	568	90
District Courts	..	560	146
Appeals in District and Subordinate Judges' Courts	..	427	210

The position in 1939 has not materially changed. These prolonged proceedings in courts involve great cost to money-lenders as well as peasants. Execution of a decree involves greater delay and obstacle. The Madras Banking Enquiry Committee is correct when it says "The loss by being compelled to have recourse to the courts to recover dues is so considerable that the interest must be charged at a high rate to cover that loss and the ready payer must pay for the others who cannot or will not pay in full ; so that there is here a strong argument against prompt payment and any one who pays on the due date comes to be regarded as more foolish than his fellows. Quicker decision and prompter and more effective execution are essential if better facilities are to be given for cheap credit."

The provision of arrest in the execution of decree should be abolished in the case of agriculturists particularly and of all others generally.

A land alienation Act restricting the alienation of land on the basis of the Punjab Act should be immediately introduced in this Presidency to prevent the alienation of all lands to moneylenders. In this Province except in the Agency tracts no restriction has been placed on the alienability of ryotwari lands.

Registration and Licensing of Moneylenders

The Madras Banking Enquiry Committee are of opinion that registration should be optional to a moneylender. The Central Banking Enquiry Committee say that the main objects of registration viz., reduction of the high rates of interest and the removal of dishonest practices among certain members of their class—may be achieved by utilising the Usurious Loans Act more fully, by regulating accounts on the model of the Punjab Regulation of Accounts Act, by educating the rural borrower and by the spreading of co-operative and joint stock

banking. Hence they are against licensing of moneylending. But licensing of moneylending in addition to regulation of their business may be justified on three grounds. "Firstly it helps to locate the class of persons whose accounts have to be supervised. Secondly, it lays the foundation for the growth of organised rural banking which will in course of time be connected with larger banking institutions. It helps also for the gradual audit of accounts and for enforcement of rules of business by superior financing banks as the Reserve Bank. Thirdly one result of the regulation of moneylenders will be the driving out of occasional moneylending and the investment of funds in organised banks or in the hands of bigger moneylenders."* In addition, registered moneylenders who will really grow in strength and maintain correct accounts may have a good chance of being appointed as agents of joint stock banks in the country. "This would remedy one of the obstacles of branch banking in India, namely the complete ignorance of the urban banker as to the conditions prevailing in the mofussil and the high cost of running a full fledged branch in the interior with a responsible manager."

Registration of moneylenders is being provided for in recent legislations in several provinces. To minimise too much interference in rural moneylending, moneylenders and moneylending may be defined and certain class of loans by certain persons—e.g., kind loans, loans by landlords to tenants etc., may be exempted. In licencing moneylenders a limit of capital invested in the business may be laid down. To further licensing in the initial stages, unlicensed moneylenders should not be given the benefit of suing in courts for the recovery of loans. Suitable rules should be framed for the guidance of the Registrar of moneylenders. The District Collector in each district can conveniently act as the Registrar. A special Act should be framed for regulating pawn-broking which is very common in the rural areas.

* K. G. Sivaswami, *Legislative Protection and Relief of Agricultural Debtors in India*.

The Reserve Bank is prepared to rediscount agricultural paper of moneylenders discounted by Scheduled banks at special rates by grant of rebates to scheduled banks in respect of such paper. This can be facilitated if the moneylenders are registered. An association of registered moneylenders can even approach the Reserve Bank for the direct discounting of their agricultural paper.

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Magnetic Susceptibility of Some Amalgams

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1. *Introduction.*

Perhaps next to water, mercury is the most remarkable liquid. In certain respects, it is more interesting than water. Whereas water consists of molecules containing hydrogen and oxygen, mercury is an element. The properties so characteristic of mercury make it a liquid used extensively for various scientific purposes.

The question has often been raised about the state of mercury in the solid, liquid and vapour states. A neat answer is suggested by magnetic methods. Other considerations point to the correctness of these ideas.

It is well known that the mercury atom is spectroscopically in the 1S_0 state (Stoner 1934, p. 549). For such atoms, the classical formula for magnetic susceptibility *viz.*

$$\chi = -\frac{e}{6mc^2} \sum \bar{r}^2$$

is applicable. Here e is the charge on the electron, m its mass, c the velocity of light and $\bar{r^2}$ the time average of r^2 , r being the distance of the electron from the nucleus. If the summation is extended to all the circumnuclear electrons, the susceptibility of the atom may be calculated.

Slater (1930) has considered the factor $\Sigma \bar{r^2}$ and deduced the following expression for the susceptibility of an electron in any group.

$$\chi_e = \frac{0.807 n(n + \frac{1}{2})(n + 1)}{(Z - s)^2} \times 10^{-6}$$

where n is the effective quantum number, Z the atomic number of the element and s the screening constant for the electron under consideration. Bhatnagar and Nevgi (1937) calculated the atomic susceptibility of mercury on these lines and found the value to be -84.6 .* The susceptibility of mercury vapour has been studied by Shur (1937) who obtained for the atomic susceptibility of mercury the value of -78 .

It seems clear from these conclusions that the vapour of mercury is monoatomic. The value in the liquid state is found to be -33.3 . This is smaller than the value of mercury in the monoatomic state.

It is of interest to note that Kido (1933) finds for the ionic susceptibility of the mercury ion Hg^{++} , the value -37 . This value is close to that of liquid mercury. In fact the difference $+3.7$ may be taken to be the paramagnetic component of the valency electrons in one gram atom of mercury.

In the case of solid mercury, the atomic susceptibility at -183°C is found by Gruneisen and Vogt (Stoner 1934, p. 512) to be -23.4 . There is thus evidence that here also the mercury exists in the crystal as ions. The free electrons in one gram of the element contribute a paramagnetic susceptibility of $+13.6$.

On the calculations of Pauli (1927) modified by Landau (1930) we obtain for the gram atomic susceptibility of free electrons the expression

$$(\chi_A)_e \times 10^6 = 32.11q/V_0$$

where $(\chi_A)_e$ is the gram atomic susceptibility, q is the number of free electrons per atom and V_0 is the width of the energy band in volts

*Magnetic susceptibility values are given in 10^{-6} unit.

occupied by the free electrons in the completely degenerate state. In the case of mercury $q=2$. Since for the liquid state

$$(\chi_A)_e = 3.7 \times 10^{-6}$$

V_0 becomes 17.4 volts. For the solid state $(\chi_A)_e = 13.6 \times 10^{-6}$ and hence $V_0 = 4.7$ volts. The width of the energy band is less for the solid state than for the liquid state. Hence the binding energy of the free electrons is smaller in the case of the solid. Hence the electrical conductivity of mercury in the solid state should be less than in the liquid state. Experimental work shows that the specific resistance increases when mercury changes from the solid phase to the liquid phase. This change in the resistance is exceptionally large, and is satisfactorily explained by the above considerations.

Solid mercury has a rhombohedral structure (Wyckoff 1932, p. 209). In the liquid state, mercury appears to possess a close-packed structure. This is substantiated by the X-ray diffraction patterns obtained with liquid mercury by Prins (Randall, 1934 pp. 118 and 134). No other liquid shows such a clear diffraction pattern. A close-packed structure present in liquid mercury may now be taken to be well established.

A definite crystal structure thus persists in the liquid state. But the unit in which such a structure is predominant does not seem to have received much attention. The regions in which ions of mercury exist may be identified with the polyatomic complexes mentioned by different investigators on mercury.

Amalgams play an important part in physics and chemistry. A large amount of literature is available on the nature of amalgams. When a small quantity of an external metal is introduced into pure liquid mercury, the former spreads into the latter as perhaps the molecules of a gas do in vacuous space. In such a case, the law of additivity will hold good. But if reactions of any kind take place between mercury and the element introduced, deviations from the additivity law will be obtained.

It is interesting to note that the electrical resistance of metals shows a relatively large increase due to small amounts of impurities in solid solution. Liquid mercury behaves anomalously in this respect that solutions of most other metals in it decrease the resistance. Sodium and potassium however dissolved in small quantities of mercury increase its resistance.

The magnetic susceptibilities of dilute amalgams have received some attention. Davies and Keeping (1929) studied dilute amalgams of gold, tin, indium and gallium with a Curie-Cheneveau magnetic balance. They found that the diamagnetic susceptibility decreased as the concentration of the dissolved metal was increased but no linear relation was found to be applicable.

Bhatnagar and Mathur (1935, p. 341) mention that dilute copper amalgams are only mechanical mixtures of the two metals.

Bates and Tai (1936) studied the magnetic susceptibilities of dilute amalgams of known concentrations of bismuth, chromium, copper and manganese. They found that copper amalgams were not mere mechanical mixtures. Bates and Tai (1937) investigated manganese amalgams. Bates and Illsley (1937) studied iron amalgams. Also Bates and Ireland examined dilute amalgams of silver; this metal was found to increase the specific diamagnetic susceptibility of mercury.

The susceptibility of dilute alkali amalgams was studied by Rao and Aravamuthachari (1939). They found that at dilute concentrations, lithium amalgams showed an increase of diamagnetic susceptibility when the percentage of lithium was gradually increased; the other alkali elements showed first a decrease and then an increase. These authors examined at length the probable influence of compound formation and change of specific volume on susceptibility. It is suggested that the dispersion of the alkali metal in mercury in the form of single atoms at very low concentrations and double atoms at larger concentrations, might explain the observed variation. The studies of Rao and Aravamuthachari (1939) are extended in this investigation by a study of the magnetic susceptibilities of dilute amalgams of zinc, cadmium, tin, lead, selenium and bismuth.

2. *Experiment.*

(a) *Purification of mercury.*

The available mercury was a sample from Kahlbaum marked 'for analysis.' Further purification was effected by the method of Hulett (1911). This method is now well recognized as an efficient method of getting very pure specimens of mercury.

Fig. 1 shows the method adopted. A is a round bottomed flask with a delivery tube C. The tube B containing a stop-cock and drawn out

at the lower end is inserted into the flask. A suitable quantity of mercury is poured into the flask and the tube B is arranged still the drawn out end is well under the mercury surface.

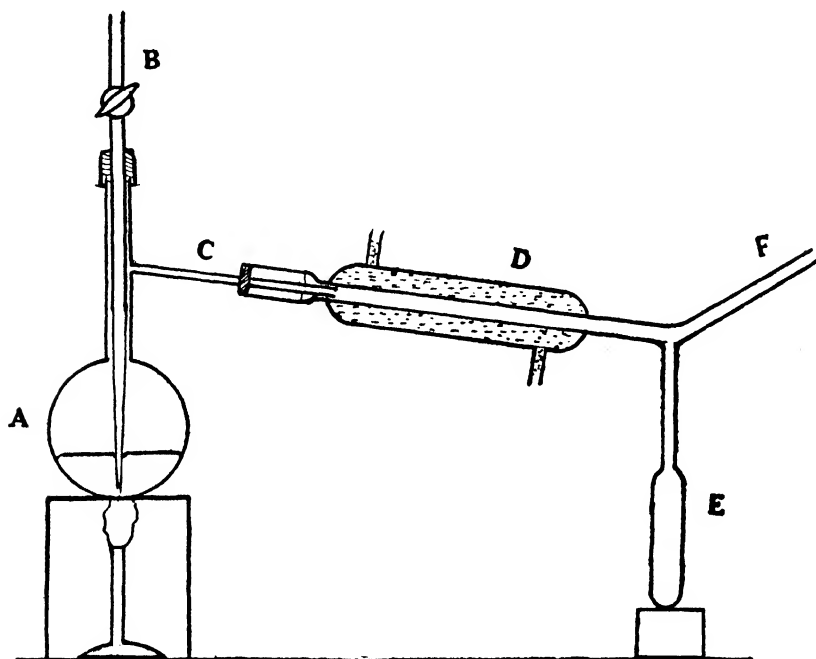


Fig. 1.

The delivery tube C is inserted into a condensing arrangement D wherein the mercury is cooled by a stream of flowing water. E is a wide tube into which the distilled mercury collects during the experiments. The end F is connected to a Hyvac pump through a barometer gauge and a large aspirator containing some calcium chloride.

The round bottomed flask is arranged on a sand bath heated from below by a Bunsen burner. The Hyvac pump is kept working and the stop-cock is adjusted so that air bubbles into the mercury through the capillary. The pressure inside is arranged to be about 2 cm. of mercury as determined with the barometer gauge. Any impurity in the mercury is thus oxidized and pure mercury distiles into E.

After a suitable amount of mercury is collected in E, the stop-cock is closed and the pressure of the air is brought to the lowest value possible. The tube E is sealed off at the top. The mercury is kept aside till it is used.

(b) *Preparation of amalgams.*

The tube used in the preparation of the amalgam is illustrated in Fig. 2. AC is a tube closed at the end A. It is about 20 cm. long and 5 mm. diameter. A constriction is drawn at B, AB being nearly 16 cm. Midway between A and B, a file mark M is made.



Fig. 2.

At C, the tube AC is connected to a wider tube (1 cm. diameter) CE with a constriction at D. At E the tube is drawn suitably to fit a pressure tubing.

To prepare an amalgam, mercury is poured into the tube. It fills the length AM exactly. A weighed quantity of the metal to be dissolved is

introduced into the tube. The end E is connected by a short pressure tubing to a high vacuum equipment. The pressure is rapidly reduced to the order of 10^{-4} cm. The mercury is gently warmed and after a time, the tube is closed at D.

After a time, the tube is tilted and all the mercury is brought into the wide space CD. On heating the mercury suitably, the introduced metal melts and dissolves in mercury. After tilting the tube to and fro till the amalgam gets a homogeneous condition, the liquid is allowed to run down the tube till it occupies the length AM. The tube is next closed at B, the molten glass being drawn into the form of a hook.

If the level is not exactly at M, the accurate level may be indicated by a new file mark. After the magnetic experiment to be outlined in the next section, the tube is weighed. The end at B is gently broken open and the amalgam removed. The tube with the broken glass piece is weighed. Next pure double distilled water is poured in till it stands exactly at the new file mark. The tube is weighed again. The magnetic experiment is repeated with water up to the same mark.

In this manner the density of the amalgam may be determined. Separate determinations using a 1 c.c. pipette gave density values which agreed very closely with those obtained in the above manner.

(c) Determination of magnetic susceptibility of the amalgams.

The Gouy method was adopted to determine the magnetic susceptibility of the amalgams. 1 cm. pole faces were used for the large Pye electromagnet employed. The distance between the faces was arranged to be 6 mm.

A careful determination of the field strength between the pole faces for different field currents was made with a search coil and a ballistic galvanometer calibrated with a solenoid. Table I gives the results obtained.

TABLE I

Field current in amperes	Field strength in kilogauss
2	8.2
3	13.9
4	16.0
5	17.3
6	18.2

The susceptibility of any amalgam was determined at field currents of 3, 4, 5 and 6 amperes. If any ferromagnetic impurity existed in the specimen, then the susceptibility would vary with the field strength employed. For in accordance with Honda (1910)

$$\chi_i = \chi_p + \sigma \frac{m}{H}$$

where χ_i is the specific susceptibility of the impure specimen, χ_p that of the pure substance, σ the specific intensity of magnetization of the ferromagnetic impurity, m (being very small) the mass of this impurity present in 1 gm. of the specimen and H the field strength.

If the mass m is zero, then $\chi_i = \chi_p$ and the specific intensity is independent of the field strength. In the present investigation, there was no evidence of any ferromagnetic impurity and in all the cases studied, the specific susceptibility was independent of the field strength. The results given are the averages in each case of 4 measurements at field currents of 3, 4, 5 and 6 amperes.

(d) *Determination of the magnetic susceptibility of the pure metals introduced.*

These measurements were made by the Curie method. Small quantities of the metals (about 50 mg.) were taken and their specific susceptibilities at currents of 3, 4, 5 and 6 amperes were determined. By extrapolation of the $\chi, \frac{1}{H}$ curve, the specific susceptibility at infinite field strength was determined.

3. Results.

(a) *Pure mercury.*

Freshly prepared mercury was used. The mercury was taken in tubes similar to the one described in Art. 2(b) heated to get rid of any dissolved gases and finally sealed in vacuo.

The values obtained for pure mercury by the author and by other investigators are given here for comparison.

TABLE II.

Mercury

Authors	Specific susceptibility.
Owen (1912)	-0.184
Davis and Keeping (1929)	-0.189
Vogt (1935)	-0.168
Bates and Tai (1936)	-0.1675
Bates and Baker (1938)	-0.1675 (at 30°C)
Bhatnagar, Nevgi (1937) (purified and redistilled mercury)	-0.157
Bhatnagar and Nevgi (1937) (mercury from extra-pure compounds)	-0.172
Rao and Aravamuthachari (1939)	-0.1660
Author	-0.1676

The author's value agrees closely with those of other investigators, particularly with the careful measurements of Vogt, Bates and Baker and Rao and Aravamuthachari.

(b) *Susceptibility of Zn, Cd, Sn, Pb, Se, Bi and Sb.*

In this investigation, amalgams of zinc, cadmium, tin, lead, selenium, bismuth and antimony have been investigated. Very pure specimens from Kahlbaum were used. Table III gives the results obtained by the author and other investigators.

TABLE III.

Authors.	Specific susceptibility.						
	Zn.	Cd.	Sn. (white)	Pb.	Se.	Bi.	Sb.
Honda (1910)	-0.154	-0.169	+0.027	-0.12	-0.32	-1.458	-0.92
Owen (1912)	-0.158	-0.185	+0.02	-0.12	-0.32	-1.40	-0.82
Meyer (1900)			+0.038				
Wills (1898)			+0.052				
Rao (1934)			+0.036				
McLennan, Ruedy and .							
Cohen (1928)	-0.160	-0.180					
Rao (1936)	-0.160	-0.174	+0.034			-1.412	
Hoge (1935)			+0.025				
Focke (1930)						-1.34	
Rao (1932)						-1.323	

The values of the specific susceptibility obtained in this investigation are in close agreement with those of other investigators.

(c) *Zinc and cadmium amalgams.*

Zinc and cadmium are metals of the second group in the periodic classification and are similar in atomic structure and properties to mercury.

Zinc and cadmium dissolve easily at room temperature in mercury. The solubility of cadmium is much greater than that of zinc in mercury. At the concentrations studied, the amalgams were liquids.

The results for zinc and cadmium are given below.

TABLE IV.

Zinc amalgams.

Percentage by weight of zinc in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	—0.169
0.18	13.47	—0.170
0.48	13.46	—0.166
0.62	13.46	—0.163
1.16	13.43	—0.161
1.54	13.41	—0.158
1.56	13.41	—0.156

TABLE V.

Cadmium Amalgams.

Percentage by weight of cadmium in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	—0.168
0.17	13.48	—0.166
0.33	13.47	—0.165
0.67	13.47	—0.158
1.00	13.46	—0.157
1.28	13.45	—0.156
1.42	13.43	—0.155

Fig. 3 shows the graphs drawn between the specific susceptibility and the percentage composition by weight of zinc and cadmium.

In the case of zinc, it is found that at first the specific susceptibility increases and attains maximum value at a concentration of about 0.2% by

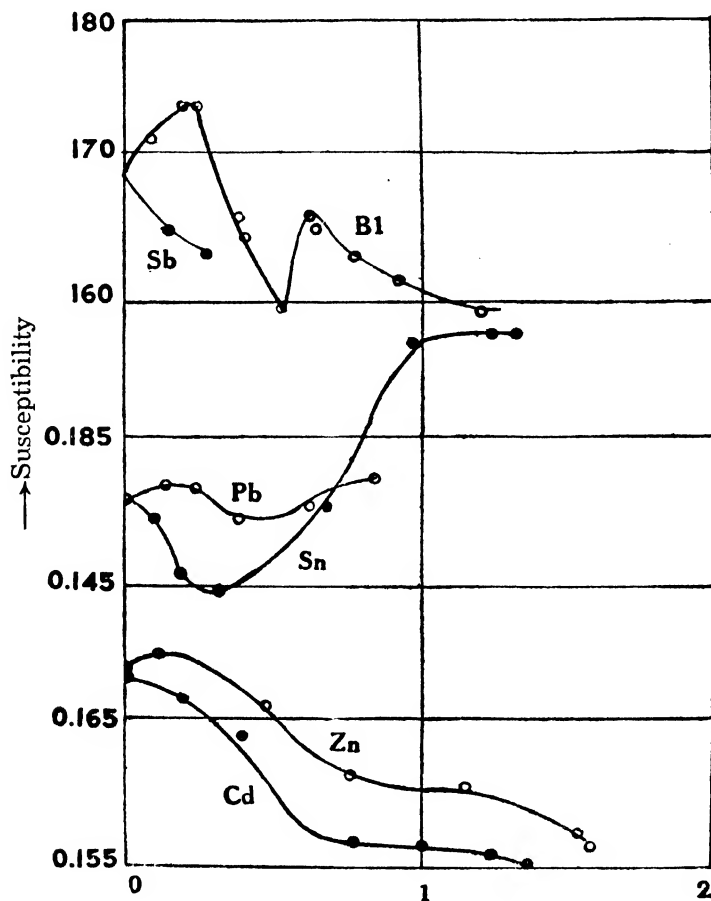


Fig. 3. \rightarrow % By Weight.

weight and then decreases gradually up to about 1.6%. With cadmium amalgams, the specific susceptibility decreases gradually even at low concentrations. Except for the initial rise in the case of zinc, the curves resemble each other in shape very closely.

It is found that although cadmium has a larger specific susceptibility than zinc, it depresses the susceptibility of mercury more than zinc. It is not unlikely that the depression depends on the atomic radius of the introduced atom. This problem will be taken up for consideration in the next article.

(d) *Tin, selenium and lead amalgams.*

The tin was white tin. This substance is indeed a very peculiar element. It is slightly paramagnetic at room temperature. When heated, the susceptibility changes rapidly at the melting point becoming diamagnetic at higher temperatures. Another allotropic modification of white tin is grey tin which has a diamagnetic susceptibility of 0.30 (Rao 1934).

The results obtained with tin are given below.

TABLE VI.

Percentage by weight of tin in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	-0.168
0.10	13.47	-0.163
0.21	13.46	-0.148
0.27	13.45	-0.147
0.74	13.45	-0.169
0.96	13.45	-0.215
1.17	13.44	-0.216
1.23	13.44	-0.216

Fig. 3 shows how the specific susceptibility decreases at first, attains a minimum value at about 0.27% of tin and then rises rapidly in the range studied.

Our results are not inconsistent with those of Davis and Keeping (1929) who have studied tin amalgams up to a concentration of 0.5% by weight. In the range 0 to 0.2%, they find the mass susceptibility constant; thereafter the value decreases rapidly up to about 0.4% and then becomes nearly constant.

Selenium dissolves with great difficulty in mercury. Hence concentrations could not be studied. Table VII gives the results obtained.

TABLE VII.

Percentage by weight of selenium in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	-0.168
0.16	13.48	-0.163
0.30	13.47	-0.159

The diamagnetic susceptibility decreases steadily as the concentration of selenium increases.

Lead dissolves easily in mercury. The values for lead amalgams are given below.

Table VIII.

Percentage by weight of lead in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	-0.168
0.18	13.48	-0.172
0.26	13.48	-0.170
0.37	13.48	-0.164
0.59	13.47	-0.166
0.67	13.47	-0.170
0.82	13.46	-0.172

Fig. 3 shows how the specific susceptibility varies with the concentration. The susceptibility indicates maximum and minimum at concentrations of 0.2 and 0.5% respectively. Above 0.5% the diamagnetic susceptibility increases steadily but not at the rate of tin.

(e) *Bismuth and antimony amalgams.*

Bismuth is a remarkable element because of its high diamagnetism. Dilute amalgams of this element have been studied by Bates and Tai. The results are given in the following table.

TABLE IX.

Percentage by weight in the amalgam.	Relative density.	Specific susceptibility.
0	13.49	-0.168
0.097	13.48	-0.171
0.19	13.48	-0.174
0.25	13.48	-0.174
0.37	13.47	-0.166
0.41	13.47	-0.164
0.50	13.47	-0.159
0.64	13.47	-0.167
0.74	13.46	-0.166
0.75	13.46	-0.165
0.87	13.46	-0.163
0.99	13.46	-0.162
1.00	13.46	-0.162
1.25	13.45	-0.159

Fig. 3 shows the graph between the percentage weight of bismuth in the amalgam and the specific susceptibility. It is found that in the range studied, there are two maxima and one minimum.

These results do not seem to agree with the conclusions of Bates and Tai (1937) who found the volume susceptibility to increase in the range of concentration 0 to 1.5% and thereafter to decrease gradually.

The exact reasons for our results seem to be obscure. The variation will be discussed in the next article.

Antimony solutions were rather difficult to prepare, probably because of the higher temperature to be reached in this case. Experiments were carried out at two concentrations and the results are shown below.

TABLE X.

Percentage of antimony in amalgam.	Relative density.	Specific susceptibility.
0	13.49	0.168
0.15	13.48	0.165
0.28	13.48	0.164

The specific susceptibility shows a gradual decrease in the range of concentration studied. (Fig. 3).

4. Discussion.

It is worth while to consider here the subject of solid solutions and intermetallic compounds when two metals are mixed with each other. An excellent account is given in the book on "The metallic state" by Hume-Rothary.

Let us consider a metal A to which is added a metal B. In a simple case, the atoms of B replace those of A and the structure of the metal remains unchanged. There is a common lattice into which the two kinds of atoms are distributed at random. As the concentration of B is increased, more of the atoms of B replace those of A in the lattice, until all the atoms are of B when its concentration is raised to 100%. These solid solutions are known as *Primary substitutional solid-solutions*.

In another type known as *Primary interstitial solid-solutions*, the atoms of B occupy the empty spaces between the atoms of A. The structure of the alloy remains the same as that of A but foreign atoms of B are found in the interspace.

Distinguished from primary solutions (in which the crystal structure of the pure metal persists) are secondary solid solutions. In these solutions, the crystal structures differ from those in the present metals. But there is no indication in these cases of any electron exchange or sharing between any atoms to form a molecule.

Finally the two metals may form intermetallic compounds of fixed or variable compositions. In these cases, electron exchange or sharing takes place and a compound molecule is formed between the atoms of the two metals. The properties of these metals are entirely different from those of the parent metals. The temperature coefficient of resistance of intermetallic compounds is of the same order as the values for the pure metals although the specific resistances of the compounds are different.

A definite distinction between intermetallic compounds of variable composition and secondary solid solutions does not seem to be possible.

Let us next consider how these distinctions may be made from the observed physical properties of alloys. Electrical conductivity and X-ray data give us convincing evidence regarding the various types.

X-ray diffraction patterns are undisturbed in the case of primary substitutional solid solutions. The patterns become diffuse but occupy the same places in the case of primary interstitial solid solutions.

In the case of secondary solid solutions, a new diffraction pattern characteristic of metal B develops in addition to the one for metal A. While in the case of intermetallic compounds, patterns different from those of A are recorded.

Considering next electrical conductivity, a large amount of useful information is supplied by a study of these properties. Norbury (1921 and 1925) has studied the relative effects of different metals upon the electrical resistance of solid solutions. His results show that the increase of resistance due to the addition of a given small quantity of the second metal is larger if this metal is as far from the solute metal in the periodic table as possible both horizontally and vertically.

On the other hand graphs drawn between concentration and electrical conductivity or between concentration and temperature coefficient of resistance, sharp maxima occur at concentrations corresponding to the different phases in the mixture when secondary solid solutions or intermetallic compounds are developed.

Another important guide in settling whether an alloy is a primary solid solution or not is by the application of the Mathiessen's rule (Mott and Jones 1936, p. 240). According to this rule, the change in the resistance due to a small quantity of foreign metal in solid solutions is independent of the temperature. While the introduction of the solvent metal greatly lowers the conductivity of the pure primary metal, it makes the conductivity much less dependent upon temperature. If R is the specific resistance of an alloy which exists as a solid solution and T the temperature, dR/dT is independent of concentration.

Fig. 4 shows the variation of resistivity of dilute amalgams of zinc, cadmium, tin, lead and bismuth. The data are taken from the International Critical Tables, Vol. VI.

Zinc is most effective in reducing the resistance. Obviously like cadmium, it forms primary solid solutions. There is evidence for this inference from the fact that the Mathiessen rule is obeyed in these two cases. (Int. Crit. Tables, Vol. VI, pp. 189-195).

It is interesting to note that zinc which is farther from mercury in the vertical column of the periodic classification decreases the electrical resistance more than cadmium.

Tin and lead behave very much like zinc and cadmium. Tin again produces a larger decrease in resistance than lead, for it is more remote from mercury than lead in the periodic classification. The temperature variation of electrical resistance is also found to be constant in the case of dilute amalgams of lead and tin. There seems to be therefore conclu-

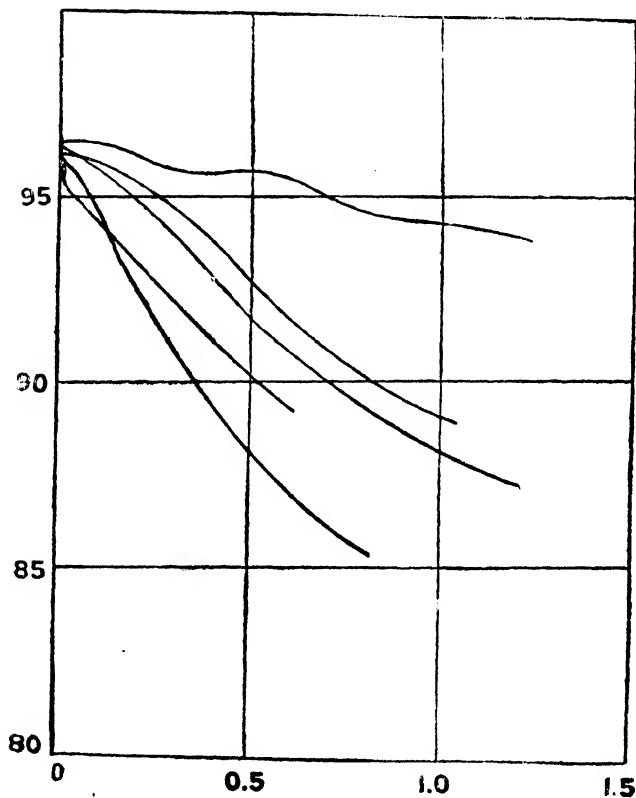


Fig. 4.

sive evidence to show that tin and lead also form primary solutions in mercury.

The electrical resistance of mercury is not greatly decreased by bismuth. A reference to the International Critical Tables, Vol. VI, p. 190

shows that the Mathiessen rule is not obeyed in this case. Hence bismuth apparently forms secondary solid solutions in mercury.

Let us next apply these conclusions to the problem of magnetic susceptibilities. It was mentioned in the introduction that a close-packed structure persists in liquid mercury. Attention was also drawn to the remarkable fact that whereas the presence of foreign metals in small quantities increases the resistance of a metal, the reverse seems to be the case with dilute amalgams.

It appears that in the case of primary solid solutions the departures from the law of additivity will not be large. But with secondary solid solutions and the formation of intermetallic compounds, one would expect much larger deviations.

It is clear that zinc and cadmium produce a gradual decrease in the diamagnetic susceptibility of mercury. This is what one would expect in the case of primary solid solutions.

The behaviour of tin and lead is wholly unexpected. Whereas tin shows a decrease at first and then a steep rise, lead gives an initial rise, then a fall and a subsequent rise. The order of variation is much less in the case of lead than in the case of tin.

Rao (1934) showed that when fine particles of tin are taken, the susceptibility is much less than the value for white tin in block. In fact as the size of the particle decreases, the paramagnetism of white tin changes over to diamagnetism reaching in the limit the value for grey tin. However, any variation of the susceptibility of tin may not greatly influence the susceptibility of the amalgams.

Bismuth is remarkable because of its high diamagnetism. The variation of the susceptibility of the amalgam is similar to that obtained by introducing lead.

It is difficult to account quantitatively for these variations because of our insufficient knowledge of the properties of amalgams. However several possible factors influencing magnetic susceptibility may be explained.

The resistance of mercury decreases when foreign metals like those investigated here are introduced. This shows that electrical fields are set up by the introduced ions which favour conduction. The first effect

of introducing foreign metals is for these to fill up the gaps between the mercury complexes. This would happen if secondary solutions are formed. Further instalments may have the effect of breaking down the complexes. These phenomena may have the effect of decreasing the diamagnetic susceptibility of mercury.

Formation of intermetallic compounds on the other hand will have the effect of increasing the susceptibility since the valence electrons of mercury (which in the pure metal give a paramagnetic component) now become bound and hence contribute a large diamagnetism.

In the case of zinc and cadmium there is a decrease of susceptibility because of a disruption of the complex. Zinc and cadmium atoms may displace some of the mercury atoms. The breaking of the complex may decrease the diamagnetic susceptibility to some extent. There is evidence (Mellor 1923, Vol. IV, p. 1039) for intermetallic compounds between cadmium and mercury but at the state of dilute amalgams, such combination is unlikely.

In the case of lead and bismuth, there seems to be evidence from the point of view of magnetism for the formation of intermetallic compounds with mercury. At least loose associations of the atoms with groups of mercury atoms are likely. But in the case of lead, this evidence seems to contradict inferences from electrical conductivity data.

X-ray data on dilute amalgams appear to be desirable to settle these difficult problems.

I take this opportunity of expressing my thanks to Dr. S. Ramachandra Rao for his interest in this work.

Summary.

The magnetic susceptibilities of dilute amalgams of zinc, cadmium, tin, lead, selenium; bismuth and antimony have been studied by the Gouy method. Whereas zinc and cadmium which easily dissolve in mercury produce simple variations, bismuth, tin and lead produce more complicated results.

The results are considered in the light of our knowledge of the properties of alloys and electrical conductivity data.

The breaking down of mercury complexes when foreign metals are introduced and the formation of loose complexes or intermetallic compounds are suggested as the causes for the variations observed.

Attention is drawn to the desirability of information from X-rays to fix up our ideas relating to amalgams in general.

REFERENCES.

- Bates and Baker, 1938, Proc. Phys. Soc. 50, 409.
Bates and Illsley, 1937, Proc. Phys. Soc. 49, 611.
Bates and Tai, 1936, Proc. Phys. Soc. 48, 795.
Bates and Tai, 1937, Proc. Phys. Soc. 49, 230.
Bhatnagar and Nevgi, 1937, Curr. Sci. 6, 53.
Bhatnagar and Mathur, 1935, 'Physical Principles of Magneto-Chemistry.'
Davis and Keeping, 1929, Phil. Mag. 7, 145.
Focke, 1930, Phys. Rev. 36, 319.
Gruneisen and Vogt, 1934, 'Stoner: Magnetism and Matter', p. 512.
Hoge, 1935, Phys. Rev. 48, 615.
Honda, 1910, Ann. der Phys. 32, 1027.
Hulet, 1911, Phys. Rev. 33, 307.
Kido, 1933, Sci. Rep. Tohoku Univ. 22, 385.
Landau, 1930, Zeits. f. Phys. 64, 629.
McLennan, Ruedy and Cohen, 1928, Proc. Roy. Soc. 121, 9.
Mellor, 1923, Treatise p. 1039.
Meyer, 1900, Ann. der Phys. 1, 654.
Norbury, 1921, Trans. Far. Soc. 16, 570.
Norbury, 1925, Jour. Ins. Metals 33, 92.
Owen, 1912, Ann. der Phys. 37, 657.
Pauli, 1927 Zeits. f. Phys. 41, 81.
Randall, 1934, Diffractions of X-rays and Electrons, pp. 113 and 134.
Rao, 1932, Ind. Jour. Phys. 7, 35.
Rao, 1934, Proc. Ind. Acad. Sci. 1, 123.
Rao and Aravamuthachari, 1939, Proc. Ind. Acad. Sci. 9, 181.
Shur, 1937, Nature 139, 804.
Slater, 1930, Phys. Rev. 36, 58.
Vogt, 1935, Ann. der Phys. 21, 791.
Wyckoff, 1932, 'The Structure of Crystals'.

தொல்காப்பியம் — நன் னூல் எழுத்ததிகாரம்

வித்துவான் - க. வெள்ளைவாரணன்.

பண்டைத் தமிழிலக்கணமாகிய தொல்காப்பியமும் அதனையடிப்படையாக வைத்துக்கொண்டு அதன் உயி நூலாகச் செய்யப்பட்ட நன்னூலுமாகிய இவ்விரு நூலானும் சொல்லப்பட்ட எழுத்திலக்கணத் தொடர்பாகவுள்ள ஒற்றுமை வேற்றுமை களைக் கருதியது இக்கட்டுரையாகும்.

தமிழ் நாட்டின் தென்பகுதிக்கண்ணிலும் புறநானூற்றில் “முநீர் விழவின் நெடியோன் நன்னீர்ப்பஹுளி” என நெடியோனென்ற பாண்டியனுக் குரிமையாக்கிக் கூறப்பட்டதுமாகிய பஹுளி யாற்றினையும் அதனையடுத்துப் பலமலையடுக்குகளாற் றொடர்ந்த குமரிமலையினையும் தென்பாற்கண்ணைதாகிய கடல் மேலூர்ந்தழிக்க அக்காலத் தந்நாட்டையாண்ட பாண்டியன் தன்தென்னாழிந்த பஹுளியாற்றிற்கும் குமரி மலையுக்கும் ஈடாக வடநாட்டின் பகுதியாகிய கங்கையாற்றினையும் இமயமலையினையும் வென்று, தன்னாட்டுக்குடிகள் வாழத்தந்து அதனால் நிலந்தருதிருவிற் பாண்டியனென்று சிறப்புப்பெயர் பெற்றானென்பது,

“வடிவேலெறிந்த வான்பகைபொறுது
பஹுளியாற்றுடன் பன்மலையடுக்கத்துக்
குமரிக்கோடுங் கொடுங்கடல் கொள்ள
வடதிசைக் கங்கையு மிமயமுங் கொண்டு
தென்றிசையாண்ட தென்னவன்”

எனவரும் சிலப்பதிகார அடிகளாலும்,

“மலிதிரை யூர்ந்துதன் மண்கடல் வெளவலின்
மெலிவின்று மேற்சென்று மேவார் நாடிடம் படப்
புலியொடு வின்னீக்கிப் புகழ் பொறித்த கிளர் கெண்டை
வலியினான் வணக்கிய வாடாச்சீர்த் தென்னவன்”

எனவரும் கலித்தொகையாலும் துணியப் படுகின்றது.

மேற்குறித்த சிறப்புப் பெயர் பெற்ற நிலந்தரு திருவிற் பாண்டியனவைக் களத்தே அதங்கோட்டா சிரியர் முன்னிலையில் ஆசிரியர் தொல்காப்பியனார் தம்மாற் செய்யப்பட்டுத் தம் பெயராலேயே குறிக்கப்பட்ட இத்தொல்காப்பியமென்னும் நூலைக் குற்றமறக் கூறினாரென அவரோடு ஒருங்கு கற்ற பன்ம்பாரனார் செய்த பாயிரங் கூறலால், தொல்காப்பியனாரும் அக்காலத்தவரென்பதும், பஹுளியாற்றையும் குமரி மலையையும் கடல் கொண்ட பின்னரே இந்நூலைச் செய்தருளினாரென்பதும் நன்கு விளங்கும்.

இந்தூலாசிரியர் அகத்தியனாரின் பன்னிரு மாணவருள் முதன்மை பெற்றவ ரென்பதும், அவராத் செய்யப்பட்ட அகத்தியமென்னும் நூலினை நன்குணர்ந்தவ ரென்பதும் இவர் தமக்கு வழங்கிய பெயர் 'தொல்காப்பியன்' என்பதும்,

“வீங்கு கடலுடுத்த வியன்கண் ஞாலத்துத்
தாங்கா நல்லிசைத் தமிழ்க்கு விளக்காகுகென
வானோரேத்தும் வாய்மொழிப் பல்புகழ்
ஆனப் பெருமை யகத்தியனென்னும்
அருந்தவ முதல்வ னாக்கிய முதனூல்
பொருந்தக் சுற்றுப் புரைதப் புணர்ந்தோர்
நல்லிசை நிறுத்த தொல்காப்பியன்”

எனவரும் பன்னிருபடல்ப் பாயிரத்தானும்,

“மன்னிய சிறப்பின் வானோர் வேண்டத்
தென்மலையிருந்த சீர்சான் முனிவரன்
றன்பாற்றண்டமிழ் தாவின் னுணர்ந்த
துன்னருஞ் சீர்த்தித் தொல்காப்பியன் முதற் பன்னிருபுலவரும்.”

எனவரும் புறப்பொருள் வெண்பாமாலைப் பாயிரத்தானும் புலனாகல் காணலாம்.

இவர்க்கு வழங்குந் தொல்காப்பியரென்னுமிப்பெயர் பல்காப்பியனார், காப்பி யாற்றுக்காப்பியனார் எனப் பண்டைத் தமிழ்ப் புலவர்க்கு வழங்கும் குடிவகை குறிக்கும் பெயர் போலப் பழமையான காப்பியக்குடியிற் பிறந்தவர் என்பதுபட வழங்கியதாகலாம். இவரைக் காவிய கோத்திரத்தவரெனக்கொண்டு சமதக்கினியின் புதல்வரான பரசுராமரின் உடன்பிறப் பாளரென ஒரு சிலர் கூறுதற்குப் பொருந்திய ஆதரவு கிடைக்கவில்லை.

வடக்கே வேங்கட மலைக்கும் தெற்கே குமரியாற்றிற்கும் இடைப்பட்ட தமிழ் மொழி வழங்கும் நாட்டின் கண்ணே பயிலப்பெறும் உலகவழக்கையுஞ் செய்யுள் வழக்கையும் அடிப்படையாகக் கொண்டு அவற்றோடு (அகத்தியர் முதலியோராற் செய்யப்பட்ட) முந்திய நூலினையும் கண்டு எழுத்திலக்கணத்தினையும், சொல் லிலக்கணத்தினையும், பொருளிலக்கணத்தினையும் ஆராய்ந்து இவற்றினிலக்கணங்களை ஆசிரியர் தொல்காப்பியனார் தொகுத்துக் கூறினாரென விந்நூற் பாயிரங்கூறுகின்றது. எனவே தொல்காப்பியமென்னும் இந்தூல் தமிழ் நாட்டின் உலக வழக்கையுஞ் செய்யுள் வழக்கையும் தமிழ்த் தொன்னூல்களையும் அடிப்படையாகக் கொண்டு ஆசிரியர் தொல் காப்பியனாரால் செய்யப்பெற்ற தனித்தமிழியனாவென்பது போதரும்.

இடைச்சங்க காலத்துப் பாண்டியர் தலைநகர் கபாடபுரம் என்றும், அக்காலத்தவர்க் கிலக்கணநூல் தொல்காப்பியமென்றும் இறையனார் களவியலுரை கூறுகின்றது. வடமொழியின் ஆதிகவியாகிய வான்மீகியார் இராமாயண காலத்திலே பொருநரை யாறு கடலொடு கலக்குமிடத்தே பாண்டியர் தலைநகர் இருந்ததாகக் குறித்தவர், அதனைக்

கபாடம் என்ற சொல்லாலறிவித்துப் போதலின் மேற்காட்டிய இறையனார் களவிய லுரைகாரர் கூற்று மெய்ப்பிக்கப்படுகின்றது. எனவே இடைச்சங்க காலத்தார்க் கிலக்கணமாய வந்தூல் இராமயண காலத்திற்குச் சிறிது முன்னரோ ஒத்த காலத்தி லேயோ இயற்றப்பட்டிருத்தல் வேண்டுமென்பது நன்கு புலனும்.

இந்தூலாசிரியர் ' ஐந்திர கிதைந்த தொல்காப்பியன் ' எனப் புகழப்படுதலால் வட மொழியின் ஆதியிலக்கணமாக இந்திரனார் செய்யப்பட்ட ஐந்திர வியாகரணத்தை யுணர்ந்து வடமொழியினும் வல்லராயினாரெனக் கூறுவர் சிலர்.

ஆசிரியர் தூல் செய்கின்ற காலத்து வடநாட்டாருள் ஒரு சிலர் தமிழ் நாட்டிற் குடியேறினரென்பதும். ஆதலால் அவர் மொழியினின்றும் ஒரு சில சொற்கள் தமிழ் மொழியிற் கலந்தனவென்பதும் இந்தூலில் வரும் ஒரு சில வடசொல்லாட்சி கொண்டும் வடமொழிச் சொற்கள் தமிழ் ஒலிக் கேற்பத் தமிழில் வந்து வழங்குதற்கெனச் சொல்லதிகாரத்தில் இந்தூலாசிரியர் கூறிய விதிக்கொண்டும் துணியப்படும். அவ்வாறே தமிழ் மொழிச் சொற்களுள்ளும் முதலு, மணி, ஆணி என்றற் றொடக்கத்துச் சொற்கள் பல பண்டைய வடமொழியிற் கலந்தனவென்பர் மொழிநூ லாராய்ச்சியாளர். இங்ஙனச் தமிழராரியர் கலப்பால் இவ்விருமொழிச் சொற்களும் மயங்கிவரப் பெறினும் வடமொழியி னின்றும் தமிழ் மொழியிலெடுத்தானற்குரிய சொற்கள் ஆரிய மொழிக்கே யுரிய சிறப்பெழுத்தின் நீங்கி இரு மொழிக்கும் உரிய பொதுவெழுத்தான இயன்மனவே யென்பதனையும் வடமொழிக்கே உரிய சிறப்பெழுத்தான சொற்கள் சிதைந்து தமிழ் மொழியெழுத்திற் கியையத்திரிந்து வருமாயின் அவையும் விலக்கப்படாவென்பதனையும்

“ வடசொற்களினி வடவெழுத்தொரி
எழுத்தொடு புணர்ந்த சொல்லாகும்மே”.

“ சிதைந்தன வரினு மியைந்தன வரையார் ”

என்ற சூத்திரங்களாற் குறிப்பிட்டார் ஆசிரியர் தொல்காப்பியனார்.

ஆசிரியர் தொல்காப்பியமென்னுமிந்நூலைச் சூத்திரம், ஒத்து, படலம், என்னும் மூன்றுறுப்பினையு மடக்கிய பிண்டமாகக் கொண்டுரைக்கின்றார். இந்தூல் எழுத்ததி காரம், சொல்லதிகாரம், பொருளதிகாரம் என மூன்று அதிகாரங்களாகப் பகுக்கப்பட்டு ஒவ்வோ ரதிகாரமும் ஒன்பதொன்பதியில்களாற் பிரித்துரைக்கப்படுகின்றது.

இந்தூல் முழுவதற்கும் முதல்முதல் உரை செய்தவர் உரையாசிரியரெனப் புகழப்படும் இளம் பூரணராவர். இவருரையைத் தழுவி, வேறுபடுமிடங்களிற் புத்துரை கூறிச் சொல்லதிகாரத்திற்குச் சேனாவரையர், கல்லாடர், தெய்வச்சிலையார் என்னும் மூவரும் வேறுவேறு உரை செய்துள்ளனர். ஆசிரியர் நச்சினர்க்கினியர் இவ்வளம் பூரணருரையைத் தழுவி யிந்நூன் முழுவதற்கும் உரை செய்துள்ளார். பேராசிரியர் சொல்லதிகாரத்திற்கும், பொருளதிகாரத்தில் மெய்ப்பாடு, உவமம், செய்யுள், மரபியல் ஆகிய நான்கியலுக்கு முரை செய்தனரென்பர். இவற்றுள் சொல்லதிகாரத்திற்கு இவரெழுதியவுரை காணப்படவில்லை.

இங்ஙனம் தொல்காப்பியனாரைச் செய்யப்பட்ட இந்நூலினிலக்கணங்கள் பலபடப் பார்த்து கிடத்தலான் மாணக்கரானும் பிறரானும் பயிலப்படாதுபோகவே தமிழிலக் கண விதிகளை யாவரும் அறிதலியலாதாயிற்று. கி. பி. 1178 முதல் 1216 வரை யா சாண்ட மூன்றாம் குலோத்துங்க சோழன் காலத்தவனான அமராபரணன் என்ற சிறப்புப் பெயர் பெற்ற சீயகங்கனென்னுமரசன் சனகாபுரத்துச் சன்மதி முனிவரின் புதல்வ ராகிய பவணந்தியாரை நோக்கித், தொல்காப்பியத்திற் கூறப்பட்டுப் பார்த்துக்கிடந்த ஐந்திலக்கண விதிகளை யாவரும் வருத்தமின்றி யறிந்துகொள்ளும்படி தொகைவகை விரியாற் சுருக்கி யோரிலக்கண நூலாகச் செய்து தரும்படி வேண்டினன் என்பதும், அவ்வாறே அவன் வேண்டுகோள்கொண்டு பவணந்தியாரும் முன்னோர் நூலின் வழியே நன்னூலென்ற பெயரால் நன்னூலாகிய இந்நூலைச் செய்தளித்தனரென்பதும்,

“சொல்காப்பியத்தின் குணதோடந்தோர்ந்து சொலுவதற்குத்
தொல்காப்பியங்கற்க நீண்டததனைச் சுருக்கியிசை
ஒல்காப்பெரும் பவணந்தியென்றோகியுபகரித்த
வல்காவலன் சீயகங்கனூர்தான் கொங்குமண்டலமே”

என்ற கோங்குமண்டலசதசத்தாலும், ‘மலர்தலையுலகில்’ என்று தொடங்கும் இந்நூற் பாயிரத்தானுங் கூறப்பட்டமை யறியலாம். எனவே பவணந்தியாரார் செய்யப்பட்ட நன்னூல் என்னும் இலக்கணநூல் தொல்காப்பியத்தின் வழிநூலாதல் பெறப்படும்.

நன்னூலுக்கு முதன்முதல் உரை செய்தவரான மயிலைநாதர் “பழையனகழிதலும்” எனவரு மந்தாற்புறனைடைச் சூத்திரத்திற்கு “இந்நூலிற் சொன்ன ஐந்ததிகாரத்திற்கும் சிங்க நோக்காய் நிற்பதொரு புறனைடை யுணர்த்துதல் நுதலிற்று.....இவ்வாறு மேல்வரு மதிகாரங்களிலும் கண்டுகொள்க”, எனக் கருத்துரை கூறுதலானும், “இயற்றமிழை அரும்பொருளைந்தெனக் கூறினமையி னிந்நூலிந்கூறிய பொருள் யாப்பணிகள் என்னும் ஐந்ததிகாரங்களும் அக்காலத்துள்ளனபோலும்” எனச் சங்கர நமச்சிவாயர் தங்கருத்தை வெளியிடுவதானும், ‘தமிழ்நன்னூற்றுறைக ளஞ்சுக்கிலக் கியம்” எனவரும் பெரிய திருமொழித் தனியனுக்கு “தமிழுக்கு எழுத்து முதலான அஞ்சு லக்ஷணத்தையும் வெளியிடுவதான நன்னூலென்று ஒரு சாத்திரம் உண்டு” என அதன் உரையாசிரியரான ஸ்ரீ பிள்ளை லோகாரியசீயர் உரைகூறிப்போதலானும் இந் நன்னூல் முதலில் ஐந்ததிகாரங்களையுமுடையதாகவே செய்யப்பட்டிருத்தல் வேண்டு மென்பது அறியப்படும்.

இவ்வாறன்றி ஆசிரியர் தொல்காப்பியனார்போலப் பவணந்தியாரும் தம் நூலை எழுத்துச் சொற்பொருளென மூன்றதிகாரமாகக்கொண்டு, மூன்று கடவுளராயு முள் ளோன் அருகதேவனே யென்னுந் தம் சமயக் கொள்கைக்கேற்ப அம்மூன்றதிகாரத்தின் முன்னரும் அம்மூவர்க்கும் வணக்கங் கூறினரெனவும் சமணர் சிலர் கூறுவர். இவ் விரு கொள்கைகளுள் அதிகார வேறுபாடிருப்பினும் நன்னூல் ஐந்திலக்கணத்தையு முணர்த்த வெழுந்த தென்பதி லையமில்லை. எனினும் பிற்காலத்து இந்நூலினெழுத் ததிகாரம் சொல்லதிகாரமாகிய இரண்டதிகாரம் தவிர ஏனைய பகுதி காணப்படாமை யின் அதுகொண்டு இந்நூலைச் சிற்றதிகாரமென்று பின்னுள்ளார் வழங்குவாராயினர்.

உரியியலிற் “ பிங்கலமுதலா நல்லோருரிச் சொலினயந்தனர் கொளலே ” என்பதனால் உரிச்சொற்களின் விரிவைப் பிங்கலநூலிற் கண்டுகொள்கவென விதித்தலால் இவ்வாசிரியர் பிங்கலநூலார் காலத்திற்குப் பிற்பட்டவராதல் வேண்டும். “ பைங்கண், பைந்தார், காரா, சேதா என்றும்போலும் பண்புத் தொகையாகிய சொற்களைப் பசுமை, கருமை, செம்மையெனப் பண்புப்பெயராக கிறுத்தி, ஈற்றுயிர் மெய்யும் ஈற்றுயிருங் கெட்டு வருமொழிக்கேற்ப வொற்றுத்திரிந்துந் திரியாதும் ஆதினின்ற அகரம் ஐகார மாயுந் திரிந்தனவென்றும், ஈற்றுயிர் மெய்யும் ஈற்றயலுயிருங்கெட்டு ஆதி நீண்ட தென்றும் பின்னுள்ளோர் சந்திமுடிக்கின்றது பொருந்தாது ” என நச்சினுக்கினியர் கூறியதனை “ ஈறுபோதல் இடையகரமிய்யாதல் ” எனவரு மிந்தூற் சூத்திர மறுப்பாகக் கொண்டு, பவணந்தியார் நச்சுந் துர்க்கினியர் காலத்திற்குச் சிறிது முற்பட்டவராதல் வேண்டுமென ஊகிப்பார் சிலர்.

இறையனாரகப் பொருட்பாயிரத்திலும் தொல்காப்பியப் பாயிரவுரைகள் முதலிய வற்றிலும் சூத்திரங்களாகவும் உரைநடைகளாகவும் வருவனவே நன்னூலிற் பொதுப் பாயிரப் பகுதியாக வெடுத்தாளப்பட்டிருத்தல் வேண்டுமென்பர். மயிலைநாதர் தொல்காப்பிய வரையாசிரியர்களைப்போலவே இந்நூல் சிறப்புப் பாயிரத்திற்கும் அதனுரைக்குமிடையே பொதுப்பாயிரப் பகுதியை அமைத்திருத்தலானும், இப்பாயிரத் தொகை நன்னூற் சூத்திரத்தொகைகளைக் குறிப்பிடும் இரண்டு வெண்பாக்களிலும் சேர்க்கப்படாமையானும் இக்கொள்கை வலியுறுகின்றது.

பவணந்தியார் தாம் செய்யும் நூலுள் “ முன்னோர் மொழிபொருளையன்றி யவர் மொழியும் பொன்னேபோற் போற்றுவம் ” என்பதற்கேற்பத் தொல்காப்பியம் முதலிய பழையநூற் சூத்திரங்களைத் தானெடுத்து மொழிதலாகச் சேர்த்தும் கூறியுள்ளார். இவராத் செய்யப்பட்ட நன்னூல் பெரும்பாலும் தொல்காப்பியத்தையே அடியொற்றிச் சேறலின் அதன் வழிநூலெனக் கொள்ளற்கேற்புடையதாகும். இங்ஙனம் ஆசிரியர் தொல்காப்பியனாராத் செய்யப்பட்ட நூலை முதலானாக வைத்துக்கொண்டு, அதனுட் கூறிய பொருள் முடிபுமுழுவதும் மொத்தமுடியப் பவணந்தியார் “ பழையன கழிதலும் புதியன புருதலும் வழுவல் காலவகையினுனே ” எனத் தாம் கூறியதற்கேற்ப ஆசிரியர் தொல்காப்பியனார் காலத்து வழங்கிப் பிறகாலத்து வழக்கு வீழ்ந்தனவற்றை இறந்தது விலக்கலென்ற வுத்தியால் விலக்கியும், அவர் காலத்து வழங்காது தங்காலத்துப் புதுவதாக வந்து வழங்குவதனை எதிரது போற்றல் என்னும் உத்தியால் தழுவியும் மரபுநிலை திரியாவாறு வேறுபாட்டுடன் இந்நன்னூலைச் செய்துள்ளார். இங்ஙனம் திரிபு வேறுபாட்டைத் தாக இவராத் செய்யப்பட்ட நன்னூலும் தொல்காப்பியத்தோடு பொருளானொருங் கொத்தலின் வழிநூலென்றதற் கேற்புடையதாகுமென்ப.

மரபுநிலை திரியாவாறு தொல்காப்பியத்தின் வேறுக இவர் கூறிய திரிபினை,

“ திரிபுடையவாயினும் மரபுநிலை திரியாதன யாவையெனின் :—செய்யுளியலுள் கூறிய வொற்றளபெடையை அளபெடை யதிகாரப்பட்டமை நோக்கி உயிரள பெடையைச் சாரவைத்துக் கூறுதலும் தனிநிலை முதனிலை இடைநிலை ஈடும் எனும் நால்வகையிடத்தை மூன்றிடமென அடக்குதலும், “ மெல்லெழுத்து மிகுதலா

வயினான ” என்றவாறே தங்கை நங்கை எங்கை செவி தலைபுறம் என மகாரங்கெட்டு இனமெல்லெழுத்து மிகுமென்னாது, மகரமே இன மெல்லெழுத்தாகத் திரியுமென்றலும், “அகமென்கிளவிக்குக் கைமுன்வரினே, முதனிலையொழிய முன்னவை கெட்டு” மெல்லெழுத்து மிகுமென்னாது அங்கையென்புழிக் ககரவகரங்கெட்டு மகரந்திரிந்து முடியுமென்றலும், “முதலீரெண்ணி நெற்றுகரமாகும்” “இடைநிலை ரகர மிரண் டெனெண்ணிற்று, நடைமருங்கின்று” என்றவாறே கூறாது “இரண்டனெற்று யிரேக” நின்ற ரகரவொற்றின்மே லுகரம் வந்து செய்கைப்பட்டு முடியுமென்றலும் நாகியாதென யகரம் வருவழி உகரங்கெட் டுகரந்தோன்றமென்னாது உகரமே யிகரமாய்த் திரியுமென்றலும், நெடுமுதல்குறையு மொழிகளின்முன் பொதுப்பட ஆறனுருபிற்கும் நான்கனுருபிற்கும் அகர நிலையுமெனக்கூறி “ஆறனுருபினகரக் கிளவி ஈறாககரமுனைக்கெடுதல்வேண்டும்” என்றாது “குவ்வின்வ் வரும்” என் றொழிதலும், ஆடிக்குக்கொண்டானென்புழி இக்குச்சாரியையென்னாது குச்சாரியை யென்றலும், வற்றுச்சாரியை வகரங்கெட்டு அற்றென நீங்குமென்னாது அற்றுச்சாரியை யென்றேகோடலும், இன்னென்சாரியை இற்றெனத் திரியுமென்னாது இற்றென்பது வேறு சாரியையெனக் கோடலும், அக்கென் சாரியை மெய்யிசையொடுங் கெடு மென்னாது அகரச்சாரியையெனக் கோடலும், அ ஆ வ என மூன்றும் பலவறி சொல்லென்னாது உண்குவ, உறங்குவ என்புழி வகரத்தை வேறு பிரித்து இடைநிலை யெனக்கொண்டு அகரவிசுதி யென்றொழிதலும்..... இன்னோரென்னவை பிறவு மாம்” என ஆசிரியர் சிவஞான சுவாமிகள் பாயிர விருத்தியின்கண் எடுத்துக்காட்டி யுள்ளார். மேலெடுத்துக் காட்டியவற்றுள் உண்குவ உறங்குவ என்புழி வகரத்தை வேறு பிரித்து அகர விசுதியெனக்கொண்டது நன்னூல் சொல்லதிகாரப் பகுதியின் கண்ணதாம். ஒழிந்த திரிபெல்லாம் எழுத்ததிகாரத்துள் நன்னூலாசிரியரார் நிரித்துக் காட்டிய பகுதிகளாம்.

இங்ஙனம் தொல்காப்பியத்தின் முடிவுகள் மாறுபடாவாறு திரிபு கூறிய பவணந்தி யார், சிலவிடத்துத் தாம் செய்யும் நூல் தொல்காப்பியத்திற்கு வழிதூலாதற் கேலாவாறு இழுக்குடைய சில விதிகளைத் தம் நூலிற் சேர்த்துரைத்துள்ளா ரென்பதும் உற்றுணரத்தக்கது. இங்ஙனம் தொல்காப்பியத்தின் பொருண் முடிபு மாறுபட இவர் வழுவிகூறிய இடங்களைச் சிவஞான சுவாமிகள் “இனிச் சார்ந்ருவரன் மரபின் மூன்றலங்கடையே” எனவும் “சார்ந்ரு வரின்லலது தமக்கியல்பிலவெனத் தேர்ந்துவெளிப்படுத்த வளை மூன்றும்” எனவும் வரையறுத்தோதியவாறே சார்பெழுத்து மூன்றென்னாது சில வயிரெழுத்துக்களையும் மெய்யெழுத்துக்களையும் உடன் சேர்த் தெண்ணுதலும், தன்மைச் சொல்லை உயர்திணை யென்னாது விரவுத்திணையெனச் சாதித்தலும்..... இன்னுமிவைபோல்வனவும் மரபு நிலை திரிதலின் வழி நூல் சார்பு தூலாதற் கேலாவா யிழுக்குப்படுமென்பது” என விருத்தியுள் விளங்கக் கூறினார்.

செந்தமிழ் வழங்கும் தமிழ் நாட்டின் பகுதியாய பன்னிரு நிலத்தினுள்ளும் ஒரு பகுதியிலுள்ளார் குறித்த சிறப்புப் பொருளில் வழங்கும் சொற்கள் அவர் குறித்த

அப்பொருளோடே தமிழ் நாட்டின் ஏனைய பகுதிகளினும் வந்து வழங்குமாயின் அவை திசைச் சொற்களாம் என்பதனை,

செந்தமிழ் சேர்ந்த பன்னிரு நிலத்தும்

தங் குறிப்பினவே திசைச்சொற் கிளவி

(சொல். சா)

என்ற சூத்திரத்தால் விளக்கினார். இதன்கண் செந்தமிழ் என்பதற்குச் செந்தமிழ் மொழியெனப் பொருள் கொள்ளாது செந்தமிழ் நாடு எனப்பொருள் கூறினர் உரையாசிரியர்கள். பவணந்தியாரும் அவர் கொள்கையினை யேற்றுப் பன்னிரு நிலத்தின் வேறாகச் செந்தமிழ்நிலமெனத் தனியே ஒன்றுளதென்றுகொண்டு செந்தமிழ் நிலத்தைச் சேர்ந்த பன்னிரண்டு (கொங்கமதமிழ்) நிலத்தின் கண்ணும் பதினெண் மொழிகளுள் தமிழொழிந்த ஏனைய மொழிகள் வழங்குகின்ற வேற்று நாட்டினுமுள்ளோர் குறிப்பினவாய்ச் செந்தமிழோர் குறிப்பினவன்றி அத்திசைகளினின்றும் செந்தமிழ் நிலத்து வந்து வழங்குவன திசைச்சொல்லென்பது பட,

“செந்தமிழ் நிலஞ்சேர் பன்னிரு நிலத்தினும்

ஒன்பதிற்றிரண்டினிற் தமிழொழி நிலத்தினும்

தங் குறிப்பினவே திசைச்சொற் கிளவி”

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எனச் சூத்திரஞ் செய்துள்ளார்.

வடவேங்கடம் தென் குமரியிடைப்பட்ட தமிழ் நில மனைத்தையும் தமிழ் கூறு நல்லுலகம் எனப் பணம்பாரனார் கூறுதலானும் இந்நிலப்பகுதியுள் செந்தமிழ் நில மெனத் தனியே ஒரு நாடு கொள்ளப்பட்டமை தொல்காப்பியர் காலத்து இன்றாகலானும் இவர்களால் பகுக்கப்பட்ட தென்பாண்டி முதலிய பன்னிரு நாடுகளும் செந்தமிழ் வழக்கினை மேற்கொண்டன வென்பது

தென்பாண்டி சூட்டங் குடங்கற்கா வேண்பூழி

பன்றியருவா வதன்வடக்கு—நன்றாய

சீத மலாடு புனனாடு செந்தமிழ் சேர்

ஏதமில் பன்னிரு நாட்டெண்

என்ற பழைய வெண்பா வொன்றில் கூறிய செந்தமிழ் சேர் ஏதமில் பன்னிரு நாடு என்ற தொடரால் விளங்குதலானும், இப்பாடலினும் செந்தமிழ் சேர் எனக் கூறப்பட்ட தன்ரிச், செந்தமிழ் நாடு சேர் எனக் கூறப்படாமையானும் செந்தமிழ் நாட்டெனத் தனியே வொரு நாடிருந்ததென்பதும், அஃதொழிந்த ஏனைய பன்னிரு நாட்டுப் பகுதிகளும் கொடுத்தமிழ் நாடாமென்பதும் பிற்காலத்தார்தம் பிழையுரையாதல் திண்ணம். அன்றியும் தென்பாண்டி நாட்டென்பது தமிழ் நாட்டின் தென்பகுதியிலுள்ளதாய பாண்டிநாட்டெனப் பொருள்படுமன்றிப் பாண்டிநாட்டின் தென்பகுதியெனப் பொருள் படாதாம். அங்ஙனம் பொருள்படுமெனின் வடபாண்டி நாட்டென அந்நாட்டின் வட பகுதி வழங்கப்படுதல் வேண்டுமென்க.

தொல்காப்பியனார் நூல் செய்தற்கு முன்னர் எழுத்திலக்கணமும் சொல்லிலக்கணமும் மயங்கக்கூறிய நூல்கள் வழங்கிய முறை மாற்றி மக்கள் எழுத்துக்களின் தனித்த வியல்பினை புணரவேண்டி ஆசிரியர் அதனை வேரோரதிகாரமாகக் கூறினாரென்றற்கு “எழுத்துமுறை காட்டி” என்றார் என நச்சினார்க்கினியர் பனம்பாரனார் பாயிரத்திற்குச் சிறப்புரை கூறிப்போதலால் பெறப்படும். எனவே தொல்காப்பியனார் எழுத்ததிகாரத்திற் சொல் முதலியவற்றி னிலக்கணங்கள் வந்து மயங்காதபடி எழுத்துக்களின் இயல்பொன்றையுமே கூறிச் செல்கின்றாரென்பது கூர்ந்து

எழுத்ததிகாரம்

எழுத்ததிகாரம் என்பது எழுத்தினது அதிகாரத்தைபுலையதென அன்மொழித் தொகையாய் அப்படலத்திற்குக் காரணப் பெயராயிற்று. எழுத்தாவது கட்புலனாக வருவது கட்புலனாகிய வடிவுமுடைத்தாக வேறுவேறு வகுத்துக்கொண்டு தன்னையே புணர்த்தியுஞ் சொற்கியைந்தும் நிற்கும் ஓசையாம். ஈண்டெழுத்தென்றது அகரமுதனகரவிருவாய்க்கிடந்த முப்பதுந் குற்றியலுகரம் முதலிய மூன்றுமாம். இவற்றிற் கெழுத்தென்னும் பெயர் “எழுத்தென்படுப” என்ற சூத்திரத்தா லெடுத்தாளப்பட்டது. இவ்வெழுத்தென்னும் பெயர் முதன் முதன் மக்கள் மொழிகளைத் தோற்றி வழங்கி வருங்காலத்து அவர்கள் தம் கருத்தைப் பிறருக்குப் பேச்சு முறையானுணர்த்தாமல் மணல், ஓலை முதலிய புறப்பொருளில் அவ்வொலிகளை எழுதிக்காட்டத் தொடங்கிய காலத்துப் பெற்ற காரணப் பெயராதல் வேண்டுமென்பது “எழுதப்படுதலினெழுத்தே” எனவரும் பழைய சூத்திரத்தொடராத் புலனும்.

தொல்காப்பியர் தாம் கூறும் எழுத்திலக்கணத்தினை முறையே நூன் மரபு, மொழி மரபு, பிறப்பியல், புணரியல், தொகைமரபு, உருபியல், உயிர் மயங்கியல், புள்ளி மயங்கியல், குற்றியலுகரப்புணரியல் என ஒன்பதியல்களானுணர்த்துகின்றார். ஆசிரியர் இப்படலத்துள் விதிக்கப்படுவனவற்றைக் கருவியுஞ் செய்கையுமென விருவகையாக்கி அவற்றுட் கருவியை நூன்மரபு முதலிய நான்கோத்தானும் செய்கையைத் தொகை மரபு முதலிய வைந்தோத்தானும் உணர்த்தினாரென்ப.

பவணந்தியார் தாம் கூறும் எழுத்திலக்கணத்தினை எண், பெயர், முறை, பிறப்பு, உருவம், மாத்திரை, முதனிலை, இறுதிநிலை, இடைநிலை, போலியென எழுத்தின் அகத்திலக்கணம் பத்தாகவும் பதம் புணர்ச்சியெனப் புறத்திலக்கணம் இரண்டாகவும் பன்னிரு பகுதியாகப் பிரித்து அவற்றுள் அகத்திலக்கணம் பத்தையும் எழுத்தியலென ஒரியலாகவும், புறத்திலக்கண மிரண்டனும் பத்ததைப் பதவியலென வோரியலாகவும், அப்பதத்தானாகும் புணர்ச்சியை உயிரீற்றுப் புணரியல், மெய்யீற்றுப் புணரியல், உருபு புணரியல் என முறையே மூன்றியல்களாகவும் ஒத்துமுறை வைப்பென்னுமுத்தியால் வைத்துணர்த்துகின்றார். தாம் வகுத்துக்கொண்ட வைந்தியல்களுள் தொல்காப்பியத்து வரும் நூன்மரபு, மொழிமரபு, பிறப்பியலென்னும் மூன்றியல்களின் விதிகளை எழுத்தியலிலும், புணரியல், தொகை மரபு, உயிர் மயங்கியல், புள்ளி மயங்கியல், குற்றியல்

லகரப் புணரியல் என்னும் ஐந்தியல்களினும் கூறிய விதிகளை உயிரீற்றுப் புணரியல், மெய்யீற்றுப் புணரியல் என்னுமிரண்டியல்களினும், உருபியல் விதியை உருபு புணரியலிலும் அடக்கிக் கூறியது பவணந்தியாரது சுருங்கச் சொல்லி விளங்கவைக்குந் திறனை வெளிப்படுத்துவதாமென்பர்.

எழுத்தின் புறத்திலக்கணமாகிய மொழியியல் உணர்த்தப்போந்த பவணந்தியார் முன்னேத் தமிழ் நூல்களில்லனவற்றைத் தாமே பகுபதம் பகாப்பதமென முன்னர் நாட்டி அதனை யுணர்த்தும் அவ்வியற்குப் பதவியலெனப் பெயர்த்தது அதன்கண் பொது வெழுத்தானும் சிறப்பெழுத்தானுமாகிய ஆரிய மொழிகள் திரிந்து தமிழ் மொழியுள் வடசொல்லாமாறு வடமொழியு ள்கத்தினையுமுடன் கூறிச் செல்கின்றார். இவ்வியலில் பவணந்தியார் பகுதி, விசுதி, இடைநிலை, சாரியை, சந்தி, விகாரம் எனப் பகுபதத்தை ஆறாகப் பிரித்து ஒரு மொழியிலக்கணங் கூறியுள்ளார். இங்ஙனமிவர் வடமொழியிலக்கணத்தினை ஆதரவாக வைத்துக்கொண்டு பதவியல் விதி கூறியதற்கு இவர் காலத்தும் அதற்கு முன்னரும் ஆரியர்கள் தமிழ்நாட்டிற் புகுதலால் அவர் தம் பழக்கவொழுக்கங்களும் தமிழ்நாட்டாரால் மேற்கொள்ளப்பெற்று ஆரியச் சொற்கள் அளவு கடந்து தமிழ் நூல்களுட் புகுந்து பாழ்படுத்தினமையே பொருந்திய காரணமாகும்.

இனி, தொல்காப்பிய வெழுத்த்திகார விதிகளும், அவற்றோடொற்றுமையுடையனவும் மாறுபட்டனவுமாய நன்னூலெழுத்த்திகார விதிகளும் இயைத்துரைக்கப்படும். இதன்கண் தொல்காப்பியச் சூத்திரங்களெல்லாம் தமிழெண்களாலும், அவற்றின் பின்னரெடுத்துக் காட்டப்படும் நன்னூற் சூத்திரங்களெல்லாம் இக்காலத்துப் பழகும் ஆங்கிலவெண்களாலும் குறிப்பிடப்படும்.

நூன்மரபு

‘இவ்வதிகாரத்தாற் சொல்லப்படும் எழுத்திலக்கணத்தை ஓராற்றற் றொருத் துணர்த்தலின் நூன்மரபு என்னும் பெயர்த்து’ என இளம்பூரணரும், ‘இத்தொல்காப்பியமெனும் நூற்கு மரபாந்துணைக்கு வேண்டுவனவற்றைத் தொகுத்துணர்த்தினமையின் நூன்மரபென்னும் பெயர்த்தாயிற்றென நச்சினூர்க்கினியரும் இவ்வியலின் பெயர்க்காரணம் கூறினர். ‘இவ்வதிகாரத்துட் கூறும் எழுத்திலக்கணத்தினைத் தொகுத்துணர்த்தலாற் பெற்ற பெயராயின் அதிகாரமரபெனப்படுவதன்றி நூன்மரபெனப்படாமை யானும், இவ்வதிகாரத்துட் கூறப்பட்டன செய்கையோத்திற்கும் பொருளதிகாரத்துள் செய்யுளிய லொன்றற்குமே கருவியாவதன்றி மூன்றதிகாரத்துக்கும் பொதுவாகாமை யானும் அவை போலியுரையாதலறிக, என இருவருரையும் மறுத்த சிவஞானமுனிவர்,

“நூன்மரபு : அஃதாவது நூலினது மரபுபற்றிய பெயர் கூறுதல். எனவே இதுவு மிவ்வோத்துட் கூறுஞ் சூத்திரங்களுக்கெல்லா மதிகாரமென்பது பெறப்பட்டது. மலகடல், யாறு என்றற் றொடக்கத் துலக மரபு பற்றிய பெயர்போலாது ஈண்டுக் கூறப்படும் எழுத்து, குறில், நெடில், உயிர், மெய், என்றற் றொடக்கத்துப் பெயர்கள் நூலின்கண் ஆளுதற்பொருட்டு முதனூலாகிரியுறற் செய்துகொள்ளப்பட்டமையின், இவை நூன் மரபுபற்றிய பெயராயின எனக்கொள்க” என இவ்வோத்தின் பெயரியை புரைத்தார்,

இவ்வோத்திற் கூறப்படும் எழுத்துக்களின் பெயர் முதலியவளைத்தும் தொல்காப்பியனார்க்கு முற்காலத்தவரான பண்டைத் தமிழ்ச் சான்றோர் நூல்களிற் சொல்லப்பட்ட எழுத்தியல் மரபுகளாய் ஆசிரியர் தந்நூலின் ஆளுதற்பொருட்டு எடுத்துக்கொள்ளப்பட்டன என்பது இவ்வோத்தினிலக்கணங்களை 'என்ப' 'புலவர்' 'மொழிப' 'என்மனார் புலவர்' என்ற சொற்களான் மூன்றையோர் கருத்தாக ஆசிரியர் கூறுதலான் விளங்கும்.

க. எழுத்தெனப்படுப

அகரமுதல்

னகரவிறுவாய்முப்பஃதென்ப

சார்ந்துவரன் மரபின் மூன்றலங்கடையே

இஃது எழுத்துக்களின் பெயரும், முறையும் தொகையும் கூறுகின்றது.

(இதன்பொருள்) எழுத்தென்று சிறப்பித்துச் சொல்லப்படுவன அகரமுதல் எனகரமீறாகக் கிடந்த முப்பதென்று சொல்லுவர் ஆசிரியர். சார்ந்து வருதலைத் தமக்கிலக்கணமாகவுடைய மூன்றாமல்லாத விடத்து என்பதாம்.

சார்ந்து வருதலைத் தமக்கிலக்கணமாகவுடைய மூன்றாம் சொல்லிடைநோக்க எழுத்தாமாயினும், தனியே நிற்கு மாற்றல் பெற்றனவல்லவாதலின், தம்மியல் குன்றுவாறு தனியே நிற்கல் காரணமாக எழுத்தெனச் சிறப்பித்துச் சொல்லப்படும் முப்பதனோடும் சேர்த்துரைக்கப் பெறுவாயின.

சார்பெழுத்தின் இயல்புணர்த்துவார் 'சார்ந்துவரன் மரபின் மூன்' மென்றார். யாதாயினும் ஒன்றினைச் சார்ந்து வருதலையே தமக்குரிய இயல்பாகவுடைய மூன்று மென்றவாறு. எனவே இம்மூன்றும் எனையெழுத்துக்களைப்போன்று தனியே எடுத்தாரைக்கப்படா நிலைமையவென்பது போதரும். இவ்வாறே நன்னூலாரும்

58. “மொழிமுதற் காரண மாமணுத் திரளொளி
எழுத்தது முதல்சார் பெனவிரு வகைத்தே”

என்பதனால் மொழிக்கு முதற்காரணமாய் அணுத்திரளின் காரியமாய்வரும் ஒலியாவது எழுத்து அது முதலெழுத்தென்றும் சார்பெழுத்தென்றும் இருவகையினையுடைத்து எனக்கூறி, எழுத்தெனச் சிறப்பித்துச் சொல்லப்படும் உயிரும் மெய்யுமாகிய முப்பதெழுத்தினையும் தனியே இசைத்தல் பற்றி,

59. “உயிரு முடம்புமா முப்பது முதலே”

என்பதனால் முதலெழுத்தெனப் பெயரிட்டுரைத்தார்.

அகரம் முதலிய முப்பதும் நெடுங்கணக்கினுட் பெறப்படுதலின் அவற்றை விதந்தோதாது அகரமுதல் எனகரவிறுவாய் என முதலு மிறுகியு மெடுத்தோதினார். இங்ஙனம் கூறலான் அகரமுதலாக எனகரமீறாக வழங்குதலே எழுத்தினது முறையாம் என்பது பெறப்படும். இதனை மேற்கொண்டே

“சிறப்பினு மினத்தினுஞ் செறிந்தீண்டம் முதல்
நடத்த ருளே முறையாகும்மே”

என நன்னூலினும் எழுத்துக்களின் முறை கூறப்பட்டது. ‘முப்பஃதென்ப’ என்பதனால் எழுத்தின் தொகை கூறினார்.

உ. அவைவதாம்

குற்றியலிகரம் குற்றியலுகர

மாய்தமென்ற

முப்பாற் புள்ளியு மெழுத்தோரன்ன

இது மேற் சார்ந்துவருமென்ற மூன்றிற்கும் பெயரும் முறையும் கூறுகின்றது.

(இ-ள்) மேற்சார்ந்து வருமெனப் பட்டவைதாம் குற்றியலிகரமும் குற்றியலுகரமும் மாய்தமென்று சொல்லப்பட்ட மூன்று கூற்றதாகிய புள்ளிவடிவுமாம். அவையும் முற் கூறிய முப்பதெழுத்தினோடு ஒரு தன்மையாய் வழங்கும் என்று முற்கூறிய விரண்டும் உம்மை தொக்கு நின்றன. ஒரு மொழியைச் சார்ந்து வருமியல்பன்றித் தனித்தியங்கு மியல்பு தமக்கில வென்றவின் அவை தம்மை யெடுத்தோதிக் காட்டலாகாமையின் அவற்றிற்குக் குற்றியலிகரம், குற்றியலுகரம், ஆய்தம் என வேறுவேறு பெயரிட்டு ஈண்டெடுத்தோதினார். அவை தனித்தொலிக்கப் பெருவாயினும் மொழியோடு சார்த்தி யிசைக்கப்படுதலின் எழுத்தென்றற்கு ஒருவகையானுரிய வென்பார், எழுத்தோரன்ன என்றார். குற்றியலுகர இகரங்களோ டிவற்றிடை வேற்றுமை தெரிதற்பொருட்டு இகரமுகர மென்றொழியாது குற்றிய லிகரம் குற்றியலுகர மென்றார்.

புணர்ச்சி வேறுபடுதலின் இகரவுகரம் குறுகி நின்றனவென்றும், சந்தனக்கோல் குறுகினால் பிரப்பற் கோலாகாதவாறுபோல் உயிரது குறுக்கமும், உயிரேயாமென்றும், இவற்றைப் புணர்ச்சி வேற்றுமையும் பொருள் வேற்றுமையும்பற்றி வேறேரெழுத்தாக ஆகிரியர் வேண்டினாரென்றும் கூறுவர் நச்சினுர்க்கினியர்.

ஒரு மாத்திரையாய் நின்ற குற்றெழுத்துக்களே, ஈரொற்றுடன் நின்ற கான் மாத்திரை பெற்ற மகரக்குறுக்கம்போல, செயற்கையான் அரைமாத்திரை பெற்றுக் குறுகி நின்றன என உலக மலையாமைப்பொருட்டு இவை யிங்நனமாதலியல்பென்பார் குற்றிகரம், குற்றுகரம் என்றொழியாது ஆகிரியர் குற்றியலிகரம் குற்றியலுகரமெனக் குறிப்பிட்டாரெனவும் ‘குற்றியலிகரம் நிற்றல்வேண்டும்,’ குற்றியலுகரம் வல்லா றூர்ந்தே நிற்றல் வேண்டுமெனவுங்கூறி இவைபற்றி மாத்திரை குறுகுமெனக்கூறித் திலரெனவும் ‘ஆயிரு மூன்றேபுகரம் குறுகிடன், ‘யகரம் வரும் வழி யிகரம் குறுகும்’ என்புழி வரும் குறுகுமென்னுஞ்சொல் “கோயின் மன்னனைக் குறுகினள் சென்றழி, நீங்கிற்றெறுஉங் குறுகுங்காற்றண்ணென்னும், என்புழிப்போல அணுகுதற் பொருண் மைத்தெனவும் கூறிக், குற்றியலுகரமும் ஆய்தம்போல வேறெழுத்தேயாவதன்றி ஒரு மாத்திரையாய் நின்ற இகர உகரங்களே மகரக்குறுக்கம் முதலியனபோல ஒரு காரணம்பற்றி யரை மாத்திரையாய் நின்றனவல்ல எனச் சிவஞான முனிவர் விருத்தி யில் விளங்க உரைத்தார்.

ஆயினும் 'ஆயிரு மூன்றேபுகரங் குறுகிடன்' என்புழியும் 'யகரம் வரும் வழியகரங்குறுகு' மென்புழியும் வந்த குறுகுமென்ற சொல்லிற்கு அவர் கூறியவாறு அணுகுமெனப் பொருள் கூறின் முறையே அவ்விரு தொடரும் அவ்வறுவகைச் சொல்லும் உகரம் வருமிடம் எனவும், யகர முதன்மொழி வருமொழியாய் வருமிடத்து ஆண்டு இகரம் வரும் எனவும் பொருள்பட்டு அவ்வாறு வருவன முற்றிகர முற்றுக்கரமே எனத் திரிபு புணர்ச்சி தோன்றிக் குற்றியலிகரம் குற்றியலுகரம் கொள்ளப்படா ஆகலின் அவ்விசை வகரங்கள் தன் மாத்திரையிற் குறுகி அரைமாத்திரை பெறு மென்பதே பொருத்தமுடையதாகத் தோன்றுகிறது. குற்றியலிகரம் குற்றியலுகரம் என்பன குறுகுதலை யியல்பாகவுடைய இகர உகரமென்றே பொருள்படுமாகலின் அவை அவ்வொலி வேற்றுமை காரணமாக வேறெழுத்தெனக் கொள்ளப்படுதலும், இகரவுகரங்களின் தொடர்புடைமை காரணமாக அது தள்ளப்படாமையும் நன்கு விளங்கும்.

ஆய்தமென்பதைப்பற்றி நச்சினுர்க்கினியர் பின்வருமாறு கூறுவர்:—ஆய்தமென்ற ஓசைதான் அடுப்புக்கூட்டுப்போல மூன்று புள்ளி-வடிவிற்பென்பதுணர்த்தற்கு “ஆய்த மென்ற முப்பாற்புள்ளியும்” என்றார். அதனை இக்காலத்தார் நடுவுவாங்கி யிட்டெழுதுப. இதற்கு வரிவடிவு கூறினர். ஏனையொற்றுக்கள்போல உயிரேறாது ஓசை விகாரமாய் நிற்பதொன்றாகலின். எழுத்தியல் தழா ஓசைகள்போலக் கொள்ளினும் கொள்ளற்கு என்றற்கு எழுத்தேயாமென்றார். இதனைப் புள்ளிவடிவிற்பெனவே ஏனையெழுத்துக்களெல்லாம் வரி வடிவின்வாதல் பெற்றும்” என்பதாம். இதன்கண் ஆய்தம் மூன்று புள்ளி வடிவிற்பென்பதும் நச்சினுர்க்கினியர் காலத்திலுள்ளார் சிலர் அதனை நடுவே வளைந்த கோடிட்டு வழங்கினார்கள் என்பதும், ஆய்தம் ஏனை யொற்றுக்கள்போல உயிரேறாது நிற்பதொன்றென்பதும் புலப்படுதல் காணலாம்.

நடுவுவாங்கியிட்டெழுதுப என்பது 8-ம் நூற்றாண்டில் பல்லவ மல்லன் காலத்ததாக அமைந்த காசாகுடிப் பட்டயத்துள் 'வெஃகா' என்ற சொல்லின் ஆய்தம் 'வெஃகா' என்று மேலும் கீழும் புள்ளியும் இடையில் வளைந்த கோடும் உடையதாக வரையப்பட்டுருப்பது ஆராயத்தக்கது.

வேதத்திலே ஜிஹ்வா மூலியத் தொனி பெறுவதோரெழுத்துக்கு 'ஆஸ்ரதம்' என்ற பெயரை வேத இலக்கணம் இட்டு வழங்குவதென்றும், அத்தகைய உச்சரிப்புடன் அஃகம் முதலியனவாகத் தமிழில் வழங்கும் எழுத்துக்கும் தமிழிலக்கணம் வகுத்த ஆதியிருடிகள் அவ்வடசொல்லை ஆய்தமெனத் திரிய வழங்கினராதல் வேண்டுமெனவும் பின்வருமாறு கூறுவர் சிலர். “ஆய்தம் முப்புள்ளி யென்பதற் காதரவில்லை. ஆய்தம் என்ற வடசொற்கு நீண்டது என்பது பொருள் என்பவாகலின் ஈண்டு நீண்ட கோடுளதெனல் பொருந்தும். [பலவகை வடிவுகளைக் கூறுமிடத்து நன்னூற் பழைய உரைகாரர் மயிலைநாதர்:—சதுரம் ஆய்தம் வட்டம், முக்கோணம் சிலை என்றிவற்றைக் குறிப்பிட்டுள்ளார்] இவற்றுள் இவ்வாயதமும் ஒன்றாய் நீண்டவடிவினைக் குறித்தல் காண்க. இதனால் நீண்ட கோடுள்ளதாய்ப் புள்ளி பெறுதலான் அவ்வாயதமே ஆய்தமென்றும் ஆய்தப்புள்ளி என்றும் வழங்கலாயிற்றுப்போலும். பல்லவ சாசனத்துக்கண்ட

இவ்வாய்த் வடிவைப்போலவே வடமொழி விசர்க்கத்துக்கு மேலும் கீழு மமைந்த இரட்டைப்புள்ளி வடிவேயன்றி (÷) என இடைக்கோடு வளைவின்றியும் பின் பாண்டிய சாசனமொன்றில் காணப்படுகிறது ஈண்டு ஒப்பிடத்தக்கதாம். ஆகவே அச்சொல் வின்மூலம் ஆஸ்ரதமாயினும் ஆய்தமாயினும் அவ்வெழுத்துக்கும் விசர்க்கத்துக்கும் ஒவ்வடிவும் வரிவடிவும் ஒன்றாகவே ஆசிரியர் காலத்தில் அமைந்திருந்ததென்பதும், முப்பாற் புள்ளியினதாகிய அது மிகப் பிற்காலத்தேதான் எழுதப்பட்டதென்பதும் மேற்கூறியவற்றினின்றும் பெறப்படும் ” என எலாதன கூறுவரொருசாரார்.

முதலில் ஆய்தம் முப்பாற் புள்ளியினதாகக் கருதப்பட்டது எக்காலத்தென நோக்குவோம். ‘குற்றியலிகரம் குற்றியலுகரம் ஆய்தமென்ற முப்பாற் புள்ளியும்’ என்ற தொடர்க்கு உரைகூறப்போந்த இளம்பூரணர் குற்றியலிகரமும் குற்றியலுகரமுமாய்தமென்று சொல்லப்பட்ட மூன்று கூற்றதாகிய புள்ளியும் இவை எனக்கூறிக் குற்றியலிகரமும் குற்றியலுகரமும் என்னும் எண்ணும்மை விகாரத்தாற் ரெுக்கன எனச் சிறப்புரையுங் கூறினா. மூன்றனுள் முன்னின்ற இரண்டிற்கு எண்ணும்மை விகாரத்தாற்றெுக்கன எனவே ஈற்றதாகிய ஒன்றன்கண் தொகாது நிற்கிறதென்பது கொள்ளப்படும். சூத்திரத்தில் அவ்வாறு உம்மை தொகாது நிற்குமிடம் ‘ஆய்தமென்ற முப்பாற்புள்ளியும்’ என்பதில் புள்ளியென்பத னீற்றிடமே என்பது விளங்கும். எனவே முப்பாற் புள்ளியென்பது ஆய்தமாதல் வேண்டும். ஆய்தமென்ற முப்பாற் புள்ளி யென்பதில் ஆய்தமென்பதன்கண் உம்மை இல்லாதிருக்க, ஆய்தமுமென உரையிற் காணப்படுதல் எடெழுதுவோர் பிழையாதல் வேண்டும். இதனால் முப்பாற் புள்ளியென்பது ஆய்தத்தின் வடிவை உணர்த்திய தென்பது உரையாசிரியர் உரையாலும் சிறப்புரையாலும் நன்கு தெளியப்படும். இதனைத் தழுவியே நச்சினுர்க்கினியரும் உரை கூறினமை முற்கூறப்பட்டது. இகரமும் உகரமும் என உம்மை தொக்கதாகக் கொள்ளாமல் குற்றியலிகரம், குற்றியலுகரம், ஆய்தம் என அம்மூன்றும் புள்ளி பெறுதல் பற்றிப் பொதுப் பெயராக முப்பாற் புள்ளியும் என்றும் எனச் சிவஞான முனிவர் கூறியது கொண்டு, அவர் தமக்கு ஆய்தம் முப்புள்ளி வடிவிற்கென உரைகருத்தென்பதும் பொருந்தாது. அன்றியும் அவர் கூறியபடி மூன்றும் புள்ளி பெறுதல் காரணமாக முப்பாற் புள்ளியெனப்பட்டமையின் எகரவொகரம் புள்ளி பெறுதல் காரணமாக புள்ளியென வழங்கப்படாமையானும், குற்றியலுகரம், குற்றியலிகரம் புள்ளிபெறுமெனத் தொல்காப்பியர் கூறாமையானும், குற்றியலுகரம் மொழியீற்றின்க ணல்லது புள்ளி பெறுமையானும், அறிகுறியாக வரும் புள்ளியையுடைய ஈற்றுக் குற்றியலுகரத்தின் பிற வடிவுகளிருக்க மொழிமுதற் குற்றியலிகரம் குற்றியலுகரம் ஆகிய இவற்றிற்குப் புள்ளியெனப் பொதுப் பெயரிடுதல் சாலாதாகலானும், ஆய்தத்திற்கு முப்பாற் புள்ளி யல்லது வேறு வடிவின்மையானும், குற்றியலிகர உகரத்தினை யாண்டும் புள்ளி என்ற பெயரால் எடுத்துாளாமல் மெய்யோடியைத் முதலாக உயிரியல்பில் வைத்துரைத்தலானும், பொருந்தாது என்பது. எனவே ஆய்தம் மூன்று புள்ளி வடிவிற்கென்பது உரையாசிரியர் நச்சினுர்க்கினியர் உரைகளான் ஆசிரியர் தொல்காப்பியனுக்குடன்பாடென்பது பெறப்பட்டது. பின்னருமாசிரியர் ஆய்தப் புள்ளியென இதன் பெயருரைத்தலும் ஆய்தம்

புள்ளிவடிவிற்கென்பதை வலியுறுத்தும். மூன்று புள்ளி வடிவிற்கு யெழுதப்பட்டு வந்த ஆய்தம் ஃ என இடைக்காலத்தாரால் இடையே வளைத்தெழுதப்பட்டதென்பது 8-ம் நூற்றாண்டிற் பல்லவமல்லன் சாசனமாகிய காசாக்குடிப்பட்டயத்துள் வெஃகா என்ற சொல் வெஃகா என எழுதப்பட்டு வருதலானும், நச்சினர்க்கினிய ருரையானும் நன்கு விளங்கும். ஒரு சிலராலிங்நனம் ஆய்தம் இடையே வளைத்தெழுதப்பட்டாலும் பெரும்பாலார் மூன்று புள்ளி வடிவின்தாகவே எழுதி வருகின்றமை உலகறிந்தது.

வடமொழியில் ஜிஹ்வாமூலியத்தொளி பெறுவதோ ரெழுத்து ஆஸ்ரதம் என வழங்கப்படுதல்கொண்டு தமிழ்ச்சார் பெழுத்தாகி ஓரொலியின் பெயராகிய ஆய்தம் அதன்றிரி பென்று கோடற்கு யாதோரியையும் இல்லை. வடமொழி ஆஸ்ரதம் என்ற உருவமும் அச்சொற் பொருளும் அப்பெயருடைய எழுத்தியல்பும் வேறு. தமிழில் ஆய்தமென்ற சொல்லுருவம் அதன் பொருளும் அப்பெயருடைய எழுத்தினொலியும் வேறு. இவ்விரு வேறுபட்ட சொல்லின் உருவம், பொருள் இயல்பு வேறுபட்டனவாக எவ்வித இயைபு மில்லாமல் வடசொல்லாகிய ஆஸ்ரதம் என்பது ஆய்தமாய்த் திரிந்ததென்றல் எவ்வாற்றினும் பொருந்தாததாகும். பலவகை வடிவுகளைக் கூறப்போந்த மயிலேநாதர் நீண்ட வடிவென்பதனை ஆய்தம் என வடசொல்லாற் கூறுவதுகொண்டு நீண்ட வடிவும் ஓசையுமின்றிப் புள்ளி வடிவிற்குகிய ஆய்தம் அவ்வாய்தமென்ற வடசொல்லின் திரிபாகுமென்றல் என்ன பொருத்தமோ? விளங்கவில்லை. நச்சினர்க்கினியர் தம் காலத்தார் இடையே வளைத்தெழுதுவார் என்றபடியே 'வெஃகா' எனப் பிறை வடிவமாக எழுதப்பட்டதனை நீண்ட கோடுளதாய்ப் புள்ளி பெறுமெனத் திரித்துக்கொண்டு பாண்டிய சாசனமொன்றில் 'ஃ' என மேலுங்கீழும் புள்ளியையுடைய இருபுள்ளி வடிவாகிய வடமொழி விசர்க்க எழுத்தானது எழுதுவோர் பிழையால் இடையே ஃ என்றபடி வெட்டுக்கோடு விழுந்ததனை இயற்கை யெழுத்தாக வைத்து அதனை யிடையே பிறை வடிவாக வளைத்தெழுதிய கோடுள்ள ஆய்தத்தோடு ஒப்புமையாட்டி ஆய்தம் என்ற வட சொல்லே ஆய்தமாகத் திரிந்ததெனவும் அவ்விசர்க்க ஒலியே ஆய்தவெழுத்தெனவும் கூறுவது எவ்வித இயைபுமின்றி முரண்தலுங் காண்க.

1. முதலில் நீண்ட வடிவத்தைக் குறிக்கும் ஆய்தமென்ற பெயர் வடமொழி விசர்க்கத்துக்கு வழங்குதலும், அவ்விசர்க்கத்திடையே நீண்ட கோடிட்டு எழுதுதலும் வடமொழி யிலக்கணங்களிலேயே சொல்லப்படவில்லை. அதனால் ஃ என விசர்க்கம் இடையே கோடுபெற்றுக் காணப்படுதல் வடமொழி யிலக்கணத்தொடு பொருந்தாத பிழைவடிவாதல் உண்மை.

2. இரண்டாவது இடைக்காலத்துச் சாசனமொன்றில் ஆய்தம் ஃ என வழங்கப்படுதலை நீண்டவடிவு என்ற பொருள் புலப்படும்படி ஆய்தமென்ற பெயராத் குறிப்பிடுதல் சாலாது. எனவே ஃ என எழுதப்பட்டுவரும் வடிவும் இடைக்காலத்தில் ஃ என நடுவு வாங்கியிட்டெழுதிய வடிவும் ஆய்தம் மூன்று புள்ளியாக வேனும் இடைவளைந்த கோடிட்டேனும் எழுதப்பட்டதென்பதனை விளக்குமன்றி அங்நனம் எழுதப்படாத இரு புள்ளியாகிய விசர்க்க வடிவோடொக்குமென்றல் பொருந்தாததா மென்ப தொருதலை.

3. மூன்றாவதாகத் தமிழ்மொழிச் சார்பெழுத்தினுள் ஒன்றாகிய ஆய்தம் உயிரே ருது ஓசை விகாரமாய்க் குற்றெழுத்தின் முன்னதாய் உயிரோடுசுடிய வல்லெழுத்து ஆறன்மேலதாய் அவற்றிடையே வருமியல்பிற்றென்பது,

“குறியதன்முன்னர் ஆய்தப்புள்ளி
உயிரோடுபுணர்ந்த வல்லாறன் மிசைத்தே”

என்ற சூத்திரத்தாற் றெளிக்கப்பட்டது. வடமொழி விசர்க்கமோ உயிரோசை யல்லது ஒலியாவியல்பிற்றாய் உயிரை யடுத்து அவற்றிற்கேற்ற உயிரோசைத்தாய் நின்று மேற்கூறிய றியதியின்றி கசு டக்கண்ணும் நின்றொலிக்கு மியல்புடையது. தமிழ்ச் சார்பெழுத்தாகிய ஆய்தம் குற்றெழுத்தின் பின்னதாய் வல்லின மெய்யின் முன்னின்று அதன் ஓசையை மென்மைப்படுத்தி நுணுகிய ஓசைத்தாய் நின்றலும், வடமொழியில் விசர்க்கம் பெரும்பான்மையும் மெய்முன்னில்லாத உயிரையடுத்து அதன் ஓசைத்தாய் ஒலித்தலும் கடைசியில் க ப மெய்யின்மேல் நின்றும் பிறவற்றின்முன் அவ்வோசையிற்றிரிந்தும் ஒலித்தலும் இவ்விரண்டிற்குமுள்ள முரணதலால் ஒலியாவிரண்டும் ஒத்ததென்றல் செவிகருவியாக ஓசையை நுனித்துணரும் நுண்ணுணர்விறுக் குடன் பாடன்றென்க.

மேற்காட்டிய மூன்று காரணங்களாலும் தமிழ் ஆய்தவெழுத்தும் வடமொழி விசர்க்கமும் தம்மிற் பெரிதும் வேறுபட்ட இரு ஓசைகளென்பது சிற்றிலக்கணம் பயில்வார்க்கும் தெரியுமியல்பிற்றதல் வெளிப்படை.

இதுகாறும் கூறியவாற்றால் ஆய்தம் மென்னும் பெயர் ‘ஆஸ்ரதம்’ அல்லது ‘ஆயதம்’ என்றவற்றின் றிரிபல்ல வென்பதும், வடமொழி விசர்க்கத்திற்கும் இதற்கும் வடிவானும் இயல்பானும் ஒலியானும் நிலையானும் வேறுபாடு மிகுதியுமுளவென்பதும் விளக்கப்பட்டன. இதனால் ஆய்தமென்ற எழுத்தொலி தமிழிற்கேயுரிய சிறப்பொலி என்பதும் விளக்கப்பட்டது. ஒலியியல் புணராதார் ஆய்தத்தை ‘ஹ’ எழுத்தொலியாக இனிக் கருதுவாருளரெனினும் அது மெய்யீறாய் மொழிமுதனின்றி உயிரேறி நிற்கு மியல்பறிந்து மயக்கம் நீங்குவாராக.

ஆய்தம் என்ற பெயர் தமிழாயின் அதன் பெயர்க்காரண மென்னவெனின் ஆசிரியர் மொழிகளெலாம் காரணமுடையவாயினும் அதன் காரணம் வெளிப்படத்தோன்றா என்றார். ‘ஓய்தல் ஆய்தல் நிழத்தல் சாய், ஆவயினுக்கும் உள்ளதன் நுணுக்கம், என்ற ராகவின் இச்சொல் ஆய்தலென்ற உரிச்சொல்லடியாகப் பிறந்து ஆய்தமென்றுகி நுணுகிய ஓசையுடைய எழுத்தென்ற பொருளில் வழங்கியிருத்தலும் கூடும் என உய்த்துணரலாம்.

இங்ஙனம் தொல்காப்பியனார் சார்ந்துவரு மெழுத்து மூன்றென்றாராக, பவணந்தியார் தந்துவள்ளுள் தொல்லாசிரிய ருரைத்த சார்பெழுத்தென்றதன்கண் உயிர்மெய் அளபெடை முதலியனவுஞ் சேர்த்து

60. உயிர்மெய் யாய்த முயிரளபொற்றள
பல்கிய இஃ ஐஒள மஃகான்
தனிநிலை பத்தும் சார்பெழுத்தாகும்

என்பதனும் சார்பெழுத்துப் பத்தெனக்கூறி

61. உயிர்மெய் யிரட்டுநாற் நெட்டுயராய்தம்
எட்டுயி ரளபெழு முன்றொற் றளபெடை
ஆறேழஃகும் மும்பானேழ்
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ஒளகா னென்றே மஃகான் மூன்றே
ஆய்தமிரண்டொடு சார்பெழுத்துறவிரி
ஒன்றொழி முந்நாற் நெழுபா னென்ப”

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என விரித்துக் கூறியுள்ளார்.

“முதலெழுத்தாந்தன்மை அவற்றிற்கின்மையானும் சார்பெழுத்திற்கேற்றதலானும் இப்பத்துஞ் சார்பாகவே கொள்ளவேண்டு மென்பது” என மயிலை நாதரும், “உயிர்மெய் உயிருமெய்யுந் கூடிப்பிறத்தலானும், ஆய்தம் உயிர்போல அலகுபெற்றும் மெய்போலப் பெருகும் ஒரு புடையொத்து அவற்றினிடையே சார்ந்து வருதலானும், ஏனைய தத்தம் முதலெழுத்தின் திரிபு விகாரத்தாற் பிறத்தலானும் சார்பெழுத்தாயின வெனக்கொள்க” எனச் சங்கர நமச்சிவாயப் புலவரும் காரணங் கூறிச் சென்றனர்.

ஆசிரியர் தொல்காப்பியனார் குற்றியலிகரம் குற்றியலுகர மென்ற மூன்றையும் சார்பெழுத்தினுடனாக்கியது. இவை யாதானு மொருசொல்லைச் சார்ந்து வரினல்லது தம்மில் தனியே ஒலித்து நிற்கும் இயல்பின்றி ஒன்றினைச் சார்ந்து வரும் இயல்பு

பற்றியேயாம். ஆசிரியர் “சார்ந்து வரினல்லது தமக்கியல்பிலவெனத் தேர்ந்து வெளிப் படுத்த வுனை மூன்றும்” என நாகல் விளக்கிப்போதலானும் இவற்றியல்பு தனியே வரவியலாது ஒன்றினால் சார்ந்து வருதலே யென்பது புலனும். எனவே தன்னியல்பின் நிற்றலாற்றாதவாய் மொழியைச் சார்ந்துவரு மியல்புடைய எழுத்துக்களே சார்பெழுத் தாதல் தொல்சாசிரியர் துணிபென்பது தேற்றம்.

நன்னூல்சாரார் சார்பில் சேர்க்கப்படும் உயிர்மெய்யெழுத்துக்கள் உயிரும் மெய்யுமென வேறு தின்ற விடத்தும் தனியே நிற்றற்குரிய முதலெழுத்தாய் நிற்ற லானும், உயிருமெய்யும்கூடி நிற்றல் பொருளுணர்ந்தும் பொருட்டன்றித், தனியே நிற்றலாற்றத் தன்மை பற்றிப் பொருளாகலானும், உயிருமெய்யுமாகிய முதலெழுத்துக்களி ரண்டும் ஒன்றுபட்ட நிலையில் அக்கூட்டத்தினை யுணர்ந்திய பெயரே உயிர்மெய் என்பதன்றி முப்பதெழுத்தினும் வேறுபட்ட எழுத்தொலிகளை அப்பெயர் குறித்த தென்றல் வழக்கன்மையானும், மெய்யும் உயிரும்கூடுதலாகிய கூட்டம்பற்றி வேறு பட்டவதனின் ‘மெய்யோடியையினும் உயிரியல் திரியா’ என்றற்றொடக்கத்து விதிகள் வேண்டப்படாமையானும் முதலெழுத்துக்களின் வேறுகவைத்து உயிர்மெய்யை (உயிரேறியமெய்யை)ச் சார்பெழுத்தென்றல் பொருந்தாதென்க. இனி உயிரளபெடையினை மூவாபிசைக்கும் வேறெழுத்துக்க் கொண்டு சார்பெழுத்து எடக்குதலும் பொருத்தமற்றதாம். என்ன? ஆசிரியர் தொல்காப்பியனால் அளபெடையினைத் தனியே ஒரெழுத்தெனக் கொண்டிலரென்பது.

“மூவாபிசைத்த லோரெழுத்தின்றே”

“நீட்டம் வேண்டி னவ்வாபுடைய

கூட்டியெழுத்த லென்மனார் புலவர்”

எனவும் வரும் சூத்திரங்களான் நன்கு புலப்படும். ஒரெழுத்து மூன்று மாத்திரையாக இசைத்தலின்று, ஒலி நீட்சி வேண்டுமோர் அதற்கேற்ற இயல்புடைய எழுத்துக்கூட்டி இசையினை எழுப்பிக் கொள்க என்பதே மேற்காட்டிய சூத்திரங்களின் பொருள். இதனால் ஒரெழுத்தின் ஒலி நீட்சியை வேண்டுமோர் அவ்வொலியைத் தருதற்குரிய ஒற்றுமையுடைய எழுத்தொலிகளைக் கூட்டிக்கோடலே அளபெடையாமெனப் பெறப்படுதலின் அஃதிரண்டு முதலிய எழுத்துக்களின் கூட்டொலியேமன்றித் தனியே யோரெழுத்தன்மென்பது ஆசிரியர் கருத்தாதலுணர்க. ஒற்றளபெடைக்கு மிஃ தொக்கும்.

எனவே முதலெழுத்துக்களில் இனமுடைய எழுத்துக்களின் வேறுகாத அளபெடைகளைச் சார்பெழுத்தினுளடக்குவது இயையுடைத்தன்று. ஆகவே உயிரளபெடை ஒற்றளபெடையாமிவைகளையும், எழுத்தெனப்படும் முதலெழுத்துக்கள் புணர்ச்சியிற் பட்டவிடத்து உண்டாம் விகாரங்களாகிய ஐகாரக் குறுக்கம், மகரக் குறுக்கம் முதலியவற்றையும் பவணந்தியார் சார்பெழுத்தெனச் சார்த்தியுரைத்தல் சார்பெழுத்தி னிலக்கணத்திற்கு முற்றும் மாறாதலொருதலை.

ஆசிரியர் சிவஞான முனிவரும் சூத்திர விருத்தியுள் “இனியம் மூன்று மேயன்றி உயிர்மெய் முதலியவற்றையுஞ் சார்பெழுத்தென்பாரு முளராலோ வெனின்” எனவினா

வெழுப்பிக்கொண்டு “ஆல் என்புழி உயிர்முன்னும் மெய்பின்னும் நின்று மயங்கினாற் போல, லா என்புழி மெய்முன்னும் உயிர்பின்னும் நின்று மயங்கினவேயல்லாது, உயிரும் மெய்யுமாகிய தந்தன்மை திரிந்து வேறாகாமைக்கு “மெய்யோடியையினுமுயிரி யறியியா” என்றற்றொடக்கத்துச் சூத்திரங்களே சான்றாகலான், உயிர்மெய்யாகிய காலத் தும், குறின்மை நெடின்மை என்னும் உயிர்த்தன்மையும், வன்மை மென்மை இடைமையென்னும் மெய்த்தன்மையும் தன்னியல்பிற் றிரிபு படாமையானும், உடல்மேல் உயிர் வந்தொன்றுதல் பொன்மணிபோல இயல்பு புணர்ச்சி யென்பவாகலானும்,..ஆணங்கையென்பது மெய்முதல் உயிரீறு மெய்ய் மயக்கமெனவும் வரகு, என்பது உயிர்த்தொடர் மொழிக்குற்றியலுக்காமெனக் கொள்வதன்றி உயிர்மெய்முதல் உயிர்மெய்யீறு, உயிர் மெய்யமயக்கம், உயிர்மெய்த்தொடர் மொழிக்குற்றியலுக்காமெனக்கொள்ளாமையின் ஒற்றுமை நயம்பற்றி ஒன்றென்பதனால் ஒரு பயனின்மையானும்,..உயிரோடு கூடிய விடத்து வரிவடிவு வேறுபடுதலின் அதுபற்றி “புள்ளியில்லா எல்லா மெய்யும்” என மெய்ய்மேல் வைத்துச் சூத்திரஞ்செய்து வடிவெழுத்திலக்கணங் கூறினாரன்றி ஒலியெழுத்திலக்கணம் வேறுபடக் கூறாமையானும், அளபெடை சார்பெழுத்தென வேறாகாமை முன்னர்க் காட்டப்பட்டதாகலானும். ஐகாரக்குறுக்கம் முதலியன ஒரு காரணம் பற்றிக் குறுகியவாகலிற் சிறுமரம் பெருத்துழியும், பெருமரஞ் சிறுத்துழியும் வேறொரு மரமாகாதவாறு போல வேறெழுத்தெனப்படாவாகலானும்..... அது பொருந்தாதெனமறுக்க, வன்றொடர் மொழிக்குற்றியலுக்காம் வல்லெழுத்து வரு வழிக் கான் மாத்திரையாய்க் குறுகுதலின் அதுபற்றி அதனைக் குற்றியலுக்கரத்தின் வேறென்னுமையின் அவர்க்குமது கருத்தன்று போலு மென்க”, எனக்கூறி மறுத்தமை ஈண்டு வைத்துணரற்பாற்று.

௩. அவற்றுள் அ இ உ

எ ஓ என்னு மப்பாலேந்தும்

ஓரள பிசைக்குங் குற்றெழுத்தென்ப.

இது, மேல் எழுத்தெனப்பட்டவற்றுள் ஒரு சாரனவற்றிற்குரிய மாத்திரையளவும் காரணப் பெயரும் உணர்த்துகின்றது.

(இ-ள்) மேற்கூறிய முப்பெழுத்தினுள் அ, இ, உ, எ, ஓ என்பன வைந்தும் ஒரோவொன்று ஒரு மாத்திரையாக ஒலிக்கும் குற்றெழுத்து என்னும் பெயருடைய என்மவாறு.

குற்றெழுத்து—குறிதாகிய எழுத்து எனப் பண்புத்தொகை, இஃது ஒரு மாத்திரையாகிய குறுமையோசையாற் பெற்ற காரணப் பெயர். ஓரினப்பொருள்களினுள்ளேயே குறுமை நெடுமை கொள்ளப்படுமாதலின், இக்குற்றெழுத்தினுங் குறைந்து மெய்கள் அரை மாத்திரையாக ஒலிப்பனவாயினும் அவ்வரை மாத்திரையினும் மிக்கொலிப்பனவற்றைத் தம்முட் பெருமையின் மெய்கள் குற்றெழுத்தெனப்படாவாயின என்பர் நச்சினர்க்கினியர்.

ச. ஆ ஈ ஊ ஏ ஐ
ஒ ஒள என்னு மப்பாலேழும்
ஈரளபிசைக்கு நெட்டெழுத்தென்ப.

இதுவுமது :—

(இ-ள்) ஆ, ஈ, ஊ, ஏ, ஐ, ஒ, ஒள என்று சொல்லப்படுகின்ற அக்கூற்று ஏழும் இரண்டு மாத்திரையளவாக ஒலிக்கும் நெட்டெழுத்தென்னும் பெயரின என்று சொல்வர் ஆசிரியர் எ-று.

ஐகார ஒளகாரங்கள் ஸ்ரீய எழுத்தின் நெடியவாதற்குக் குற்றெழுத்தாகிய இனந்தமக்கில்லையெனினும் மாத்திரையொப்புமையான் அவை நெட்டெழுத்தெனப் பட்டன என்பர் உரைகாரர்.

இவ்விரு சூத்திரங்களிலும் ஆசிரியர் அ, இ, உ, எ, ஒ, என்னும் ஐந்தும் குற்றெழுத் தெனப்பெயர் பெறுமென்றும், ஆ, ஈ, ஊ, ஏ, ஐ, ஒ, ஒள என்னுமேழும் நெட்டெழுத் தெனப்பெயர் பெறுமென்றும் கூறினார். இவற்றைப் பின்வருஞ் சூத்திரங்களில் எடுத்தாளுதல் பொருட்டு குற்றெழுத்து நெட்டெழுத்து என்ற இவற்றை இப்பெயர்களாற் கூறுதலேயன்றிக் குற்றெழுத்தைக் ‘குறியது’ (தொல். ௩௮, ௨௨௬, ௨௩௪) என்றும் நெட்டெழுத்தை ‘நெடியது’ (தொல். ௩௬௩, ௪௧௧) என்றும் சில இடங்களில் வழங்கியுள்ளார்.

நன்னூலார் :—

64. அவற்றுள்,

அ, இ, உ, எ, ஒ க்குறிலைந்தே ”.

65. “ஆ, ஈ, ஊ, ஏ, ஐ, ஒ, ஒள நெடில்”

என்ற சூத்திரங்களாற் குற்றெழுத்து, நெட்டெழுத் தென்றவற்றை முறையே குறில், நெடில், எனத்திரித்து வழங்கியுள்ளார்.

இவர் குறில் நெடில் ஆகிய பெயர்களை உயிரெழுத்திற்கும், மெய்யெழுத்திற்கும், உரியனவாகக்கொண்டு, உயிர்க்குறில், உயிர்நெடில் ஆகிய இரண்டினையும் குற்றையிர் நெட்டுயிர் எனச் சிறப்புப் பெயரிட்டு வழங்குவர். (நன். 126.) மேல் ஆசிரியர் தொல் காப்பியனார் குற்றெழுத்து நெட்டெழுத்து எனப்பெயர் கூறவந்தவிடத்து அப்பெயர்க் காரணம் விளக்கிய “ஔபிசைக்கும் குற்றெழுத்து ஈரளபிசைக்கும் நெட்டெழுத்து என அவற்றின் மாத்திரைகளையும் உடம்பொடு புணர்த்துக் கூறினார். நன்னூலார் எல்லா வெழுத்துக்களுக்கும் மாத்திரை கூறும் பகுதியாகிய எழுத்துக்களின் மாத்திரை இலக்கணம் கூறும்வழி இயைத்துக் கூறியுள்ளார்.

௫. மூவளபிசைத்தல் ஔரெழுத்தின்தே.

மேலே இரண்டு சூத்திரங்களிலும் ஒரு மாத்திரையாக இசைக்கு மெழுத்துக்கள், குற்றெழுத்தெனவும், இரண்டு மாத்திரையாக இசைக்கு மெழுத்துக்கள் நெட்டெழுத்

தெனவும் கூறியவழி மூன்று மாத்திரை யளவாக ஒலிக்கு மோரெழுத்துமுண்டோ என்று ஐய நிகழுமாகலின் அதனையகற்ற எழுந்ததிச் சூத்திரமென்க.

(இ-ள்) ஒரெழுத்தே நின்று மூன்று மாத்திரையாக ஒலித்தலின்று (எ-று).

எனவே பலவெழுத்துக் கூடியவிடத்து மூன்று மாத்திரையும் நான்கு மாத்திரையும் இசைக்கும் என்பர் நச்சினுர்க்கினியர்.

இதனால் இயற்கை நிலையிலுள்ள ஒரெழுத்து மூன்று மாத்திரையளவாக ஒலித்த வில்லை யென்பதே ஆசிரியர் கருத்தாதலறியலாம்.

கூ. நீட்டம்வேண்டி. எவ்வளவுபுடைய

கூட்டி எழுஉதல் என்பனார் புலவர்

மேல் ஒரெழுத்து மூன்று மாத்திரையளவாக ஒலித்தவில்லை யெனவே இரண்டு மாத்திரை பெற்ற எழுத்து ஒசையும், பொருளும், காரணமாக நீண்டொலித்தலை வேண்டின், என் செய்யதென்றார்க்கு இதனால் மாத்திரை நீருமாறு கூறுகின்றார்.

(இ-ள்) இரண்டு மாத்திரை பெற்ற எழுத்து அம்மாத்திரையின் மிக்கொலித்தலை விரும்புவராயின் அம்மாத்திரையினைத் தருதற்குரிய எழுத்துக்களைக் கூட்டியெழுப்புக என்று கூறுவர் புலவர்—எ-று.

இதனால் நெட்டெழுத்துக்கள் தாமே இரண்டு மாத்திரையின்மிக்கு மூன்று மாத்திரையளவாக ஒசைமிக்கு நில்லா என்பதும், அங்நனம் அவை மூன்று முதலாக மாத்திரை நீண்டொலித்தலை வேண்டுவோர் அவற்றிற்கினமொத்த மாத்திரையுடைய எழுத்துக்களைக்கூட்டி யிசைத்தல் வேண்டுமென்பதும் ஆசிரியர் கருத்தாதல் பெறப் படும். அங்நனம் கூட்டியெழுப்புமாறு “குன்றிசை மொழிவயின்” (ச) “ஐ ஒள வென்னும்” என்பனவற்றார் கூறப்பட்டது.

“அவ்வளவுபுடைய” எனப் பன்மை கூறியவதனால் ஒத்த ஒரெழுத்தேயன்றி “செருஅ அய் வாழிய” என்றாங்கு இரண்டெழுத்தினைக்கூட்டி நான்கு மாத்திரை கோடலும் தழுவிக்கொள்ளப்பட்டது. இவ்வாறு நான்கு மாத்திரையாக ஈரளவு பெறுதல் “செய்யுட்களோசை சிதையுங்கால் ஈரளவும் ஐயப்பாடின்றி யணையும்” என மா புராணத்துங் கூறப்பட்டது.

கூட்டியெழுஉதல் என்பதற்கு “கூட்டியெழுப்புக” என முன்னையோருரைத்த வழியே பொருள்கொள்ளாது ‘கூட்டியெழுதுக’ எனப்பொருள் கொள்வாருமுளர். “எழு” என்ற தன் விளைப்பகுதி அளவு பெற்று நின்றதாகலின் ‘எழுதுக’ என ‘எழுது’ என்பதனைப் பகுதியாய் வைத்துரைத்தல் பொருந்தாது. அன்றியும் இரண்டு மாத்திரை பெற்ற எழுத்து ஒசை குன்றுவதான சொற்கள் மூன்று மாத்திரையாய் நின்று ஒசை பெறவேண்டின் அதனோடு ஒத்த குற்றெழுத்து அதன் பின்னர் நின்று அதன் ஒசையை நிறைவிக்கும் என்ற அளபெடைச் சூத்திரத்தோடு மாறுபட்டு வரி வடிவில் இனவெழுத்தை அறிகுறி அளவாகக்கூட்டி எழுதுதலொன்றே ஒசை நீடற் றுரிய வழியாம் எனப் பொருள்தந்து ஆசிரியர் கருத்தை மயங்கவைப்பதாதல் ஒருதலை.

எ. கண்ணிமை நொடியென வவ்வேமாத்திரை
நுண்ணிதினுணர்ந்தோர் கண்டவாறே.

இது மேல் எழுத்தெனப்பட்டவற்றுள் குற்றெழுத்து நெட்டெழுத்து எனப்பெயர் கூறிய வழி உடம்பொடு புணர்த்தலான் அவற்றளபாக மாத்திரையும் கூறப்பட்டதாகலின் இயைபுப்பட்டமை கருதி மாத்திரை யின்னதென அதன் அளவு கூறுகின்றது.

(இ-ள்) கண்ணிமைத்தலும், நொடியோசையும், ஆகிய அவையே மாத்திரைக்கு அளவாகும். இது நுண்ணிதாக ஓசையியல்பினையுணர்ந்த ஆசிரியர் கண்டநெறி எ-று.

ஈண்டு இமையென்றது இமைத்தற்றொழிலை யெனவும் நொடியென்றது நொடியிற் பிறந்த ஓசையை எனவும் உரைகாரர் சிறப்புரை கூறுவர்.

கண்ணிமைத்தலும் நொடியோசையுமிற்கு இயற்றமிழாசிரியர் எழுத்தோசையி னெல்லையாக அமைத்துக்கொண்ட ஓரளவிற்கு (ஒரு மாத்திரைக்கு) அளவாதல் கூறப்பட்டது.

பின்னர் மெய் முதலியவற்றிற்கு அரையளவு எனக் கூறப்படும் அளவு இதனிற்பாதியாதலும், மகரக்குறுக்கம் முதலியவற்றிற்குக் கூறப்படும் அளவு இப்பாதியிற் பாதியாதலுமுணர்க.

சார்ந்து வருதலின்றித் தனியேவரும் அசரமுதல் நகரவிறுதியாகவுள்ள மூப்ப தெழுத்தின் தொகையினை முதற் குத்திரத்துக்கூறி உ-ல் சார்பெழுத்தின் பெயரும் முறையுங்கூறிய ஆசிரியர் ஈ, ச-ல் ந்றெழுத்திவையெனவும் நெட்டெழுத்திவையெனவும் அவற்றின் மாத்திரை யிவ்வளவெனவுங்கூறிப் போந்து, ஓ-ல் ஓரெழுத்தின் மாத்திரை வரையறையையும், ஈ-ல் ஓசை குறைந்தால் அதனை நீட்டு முறையினையும் உணர்த்தி, இச்சுத்திரத்தால் அம்மாத்திரையிலக்கணமும் கூறிப்போந்தார்.

இச்சுத்திரத்து வரும் எனவென்பது எண்ணிற் பிரிந்து கண்ணிமையென நொடியென என்றிரண்டிடத்துங்கூடிற்று. அவ்வேயென்பதனேகாரம் இவைபோலப் பிறவையையும் ஒரு மாத்திரையியல்பினை விளங்க உணர்த்தாவெனப் பிரிநிலை குறித்தது.

இவ்வாறே நன்னூலாரும். எழுத்தொலி யெழுச்சி பலவற்றையும் அளந்து போடற்குரிய கால அளவினை,

“இயல்பெழு மார்திரிமை நொடி மாத்திரை” என்பதனால் விளங்க உரைக்குமிடத்து இயல்பாக எழும் மார்தரது இமைப்பொழுதும் நொடிப்பொழுதும் ஒரு மாத்திரைக்கு அளவாகக் கூறினார்.

இமைத்தற்றொழிலும் நொடியோசையுமாகிய இவையிரண்டும் ஆகுபெயராய்க் காலத்தை யுணர்த்தி நின்றன என்பார் சங்கர நமச்சிவாயப்புவர். எனவே இமை நொடி யென்பனவற்றிற்கு இமைப்பொழுதும் நொடிப்பொழுதும் எனப்பொருள் கொண்டு அப்பொழுதினை மாத்திரைக்கு அளவாக்கியுரைப்பதே பொருந்துவதாம்.

அ. ஓளகாரவ்றுவாயப்

பன்னீரெழுத்து முயிரென மொழிப.

இது முன்னெடுத்துக் காட்டப்பட்ட சூற்றெழுத்து நெட்டெழுத்தாகியவற்றைத் தொகுத்து வேறேர் குறியிடுகின்றது.

(இ-ள்) அகர முதலர்க ஓளகாரமீராகக் கிடந்த பன்னிரண்டெழுத்தும் உயிரென் னும் பெயரினையுடையவென்று கூறுவர் எ-று.

அகர முதலானவற்றை முன்னரெடுத்துரைத்தாராதலின் முன்னர் பெறப்பட்ட தனையே “ ஓளகாரவ்றுவாய ” என ஈரென்றேகூறி வழி மொழிந்தார்.

மெய் பதினெட்டினையும் இயக்கித்தான் அருவாய் வடிவின்றி நின்றலின் உயிர் என்பது ஆகுபெயர்.

கூ. னகரவ்றுவாயப்

பதினெண்ணெழுத்தும் மெய்யென மொழிப.

இஃது உயிரல்லவற்றைத் தொகுத்து வேறேர் குறியீடு கூறுகின்றது.

(இ-ள்) ககரமுதல் னகரமீராகக் கிடந்த பதினெட்டெழுத்துக்களும் மெய் மெய்னும் பெயரினையுடைய என்று கூறுவர் எ-று.

பன்னீருயிருக்குந் தான் இடங்கொடுத்து அவற்றானியங்குந்தன்மை பெற்ற உடம்பாய் நின்றலின் மெய்யென்பது உவம ஆகுபெயர்.

மேற் சூத்திரத்து ஓளகாரவ்றுவாய் எனக்கூறிப்போந்தாராதலின் ஈண்டு ‘ னகர வ்றுவாய் ’ என்றே கூறினும் ஓளகாரத்திற்கடுத்த ககரமுதல் என்பது தரனே பெறப் படுமாதலிற் கூறுதொழிந்தார்.

அகரமுதல் ஓளகாரமீராம் பன்னிரண்டெழுத்துக்களும் உலகத்து உடையியக்கும் உயிர்போல ஏனைப் பதினெட்டு எழுத்துக்களையும் இயக்கித் தாம் அவையின்றி யும் இயங்கும் ஆற்றலுடைமை கண்டு அவை பன்னிரண்டினையும் உவம ஆகு பெயரான் உயிரெனக் குறியிட்டும் உயிரின்றி யியங்கா உலகத்து ஏனையுடல்கள்போல இவையின்றி யியங்காக் ககரமுதல் னகரவ்றுவாய்ப் பதினெட்டெழுத்துக்களையும் அவ் வாகு பெயரான் மெய்யெனக் குறியிட்டும் வழங்கிய பண்டைத்தமிழிலக்கண நூலாசிரியரின் ஒலி நூலறிவு இவ்வுலகத்தெம்மொழியினுங் காணப்படாத தனிச் சிறப் புடையதெனப் பேராசிரியர் பலர் கூறுப.

இவ்வாறு தனித்தியங்கும் ஆற்றலுடையதாய் அவ்வாற்றலில்லாத பதினெட் டெழுத்துக்களை யியக்கியும் வரும் பன்னிரண்டெழுத்தினையும் உயிரெனவும், அவ் வாற்றலில்லாத அவ்வவற்றானியக்கப்படும் பதினெட்டெழுத்தினையும் மெய்யெனவும் முன்னையோர் மொழிப என ஆசிரியர் தொல்காப்பியனார் வேறுபிரித்துக் கூறுமாற்றால் அவர்க்கு முற்பட்ட பண்டைத்தமிழாசிரியர்கள் உடலையியக்கும் ஆற்றலொன்றுண்

டெனக்கொண்டு அதனை யுயிரெனவும், அதனின் வேறாக அதனோனியக்கப்படும் உடல் மெய்யெனவும் குறியிட்டு வழங்கினார்கள் என்பதும் அதனால் உயிர் வேறு உடல் வேறு என்னுங் கொள்கை அவர் தமக்குடன்பாடென்பதும் பெறப்படும்.

உயிர் ஆவி யென்பன ஒரு பொருளன. மெய் உடம்பு என்பன ஒரு பொருட் சொற்கள்.

இவ்வாதே நன்னூலாரும்,

63. அம்முத ிரா ருவி கம்முதல்

மெய்ம் மூவாறென விளம்பினர் புலவர்.

என்பதனால் அகர முதலிய பன்னிரண்டும் ஆவி (உயிர்) எனவும், ககர முதலிய பதினெட்டும் மெய்யெனவும் பெயர் பெறுமென விளக்கினார். இக்குறி யானிட்டதன்று முன்னையோரிட்ட முறைமைத்தென்பார் “விளம்பினர் புலவர்” என்றார்.

ஆவியும் மெய்யும் போதலின் இவ்விருவகை யெழுத்துக்களும் உவமவாகு பெயராய்க் காரணப் பொதுப்பெயராயினவென்பர் சங்கர நமச்சிவாயப்புலவர்.

ய. மெய்யோடியையினு முயிரியல் திரியா.

இஃது உயிர்மெய்க்கு அளவு கூறுதல் நுதலிற்றென்பார் உரையாசிரியர்.

(இ-ள்) பன்னிருயிரும் பதினெட்டு மெய்யோடுங்கூடி நின்றனவாயினும் தம் அளவும், குறியும், எண்ணுந்திரிந்து நில்லா எ-று.

உயிரும் மெய்யும் கூடுகின்ற உயிர்மெய்க் கூட்டத்தினை “மெய்யோடியையினும்” என உயிர்மேல் வைத்துக்கூறியது அவ்வுயிரின் மாத்திரையே இதற்கு மாத்திரையாகக் கூறுகின்றமை நோக்கிப்போலும்” என்பார் இளம் பூரணர்.

உயிர்மெய் யென்னும் பெயர், உயிரும் மெய்யும் கூடி நின்ற நிலையிற் பெற்றதாயினும் அக்கூட்டத்து, மத்ததேனுடு இயைதலாகிய வினையினை உயிரின் தனிவினையாகக் கிக் கூறியது, தன்னிலையில் தனித்தியங்குந் தன்மை உயிர்க்கேயன்றித் தனி மெய்க் கின்மையின் அவ்வாற்றமில்லா மெய்யோடு சென்று பொருந்தும் தனிச்சிறப்பு உயிர்க்கே உரித்தாதல் கருதியென்க. இங்ஙனம் மெய்யும் உயிரும் கூடிய நிலையினதாகிய உயிர் மெய் யெழுத்துக்கள் மெய்யினளபும் உயிரளபும் பெற்று ஒன்றரை மாத்திரையும் இரண்டரை மாத்திரையுமாக நிற்கவேண்டியன ஒரு மாத்திரையாயும் இரண்டு மாத்திரையாயும் ஒலித்து நிறற்றகுறிய காரணங் கூறப்புகுந்த நச்சினுர்க்கினியர் “ஆயின் ஒன்றரை மாத்திரையும் இரண்டரை மாத்திரையுமுடையன ஒரு மாத்திரையு மிரண்டு மாத்திரையு மாயவா தென்னையெனின், நீர் தனித்தனந்துழியும் நாழியாய் அரை நாழி யுப்பிற் ளலந்துழியும் கூடி ஒன்றரை நாழியாய் மிகாதவாறுபோல்வதோர் பொருட்பெற்றி யென்று கொள்வதல்லது காரணங் கூறலாகாமையுணர்க” என்று கூறினார். ஒரு நாழி நீரிலே அரைநாழி யுப்பைக் கலந்தால் அஃதொன்றரை நாழியாய் மிகாதவாறுபோல்வதோர் பொருட்பெற்றியை உயிர்மெய் யளவிற்கு உவமை கூறிப்போந்த இதன்கண்

நாழி ரீரீம் கலக்கப்பட்ட அரைநாழியுப்பு ரீரோடு கலந்து ஒன்றரை நாழியாய் மிகாது ஒரு நாழியளவுப்படுமாயினும் அவ்வரை நாழி யுப்பின் பருமை, ஒரு நாழி ரீரீம் கலந்து முன் அவ்வளவு நிறையல்லாத ரீர், முன்னிலும் நிறையினும் பெருகுதல்போல மெய்யின் மாத்திரை உயிரளவிற பட்டடங்கினும் அக்கூட்டத்துப் பொருட்பெற்றியால் மெய்யினது ஓசையும் எண்ணும் அதனோடு ஒன்றுபட்டு அழியாது. நிற்குமென்பது கொள்ளக்கிடக்கின்றது. உலகத்து உயிர்களின் உடம்பானது, உயிர்வழியா யடங்கி அதன் விரிவுபெற்று நிற்கல்போல, இம்மெய்யெழுத்தும் உயிரெழுத்தளவிற்குயடங்கி அதனொலியோ டொத்தொலிக்குமென்பது, உயிர்மெய் என்ற நிறையுமப பெயரால் நன்கு விளங்கும்.

கக. மெய்யினளபே யரையெனமொழிப.

இது தனி மெய்க்கு அளபு (மாத்திரை) கூறுகின்றது.

(இ-ள்) மெய்யினது அளபு அரை மாத்திரையெனச் சொல்லுவர் புலவர் என்று.

ஈண்டு அரையெனக்கூறியது முன்னர்க் கண்ணிமை கைந்நொடி யளவாகக் கூறப் பட்ட ஓரளபிற் பாதியினையே. நாச்சிறிது புடைபெயருந்தன்மையாய் நிற்கலின் அவ் வரைமாத்திரையுந் தனித்துக் கூறிக்காட்டலாகாது என்பர் நச்சினுர்க்கினியர்.

கஉ. அவ்வியனிலையுமேனேமூன்றே

இது சார்பிற்கேற்றத்து மூன்றற்கும் அளபு கூறுகின்றது. (இ-ள்) ஒழிந்த சார்பிற்கேற்றத்துவரும் குற்றியலிகரம், குற்றியலுகரம், ஆய்தம் என்ற மூன்றெழுத்துக்களும் முற்கூறிய அரை மாத்திரையாகிய அவ்வியல்பின்கண்ணே நிற்பனவாம். என்று.

கங. அரையளபு குறுகல் மகரமுடைத்தே

இசையிட னருகுந்தொரியுங்காலை.

இது மெய்களுள் மகரம் தன் அரை மாத்திரையிற் குறைந்து சிலவிடத்து வருமென்கின்றது.

(இ-ள்) தன் அரை மாத்திரையினுங் குறுகி வருதலை மகர மெய்யுடைத்து, ஆராயுங் காலத்து அது வேறெழுத்தினது ஓசையின்கண் சிறுபான்மையாகிவரும் என்று.

ஆசிரியர் இங்ஙனம் மகரமெய் தன் அரைமாத்திரையினுங் குறுகிவருமெனப் பொதுப்படக் கூறினார். உரையாசிரியர் இளம்பூரணர் அதன் மாத்திரைச் சுருக்கத்தினை வரையறுத்து எல்லே கூறுதல்வேண்டி “அரையளபு குறுகல் மகரமுடைத்தே” என்பதற்கு “அரையளபாகிய எல்லையிற் குறுகிக்கான் மாத்திரையாதலை மகரமெய்யுடைத்து” என உரையிற் கோடலால் கான் மாத்திரை பெறுமென வரையறை கூறியுள்ளார். இதனைத் தழுவியே நச்சினுர்க்கினியரும் நன்னூலார் முதலிய பின்னூலாரும் மகரக் குறுக்கத்திற்குக் கான் மாத்திரை யெல்லையாதலை வரையறுத்துக் கூறியுள்ளார்கள்.

‘கால்குறணம்மிகான்’

என்பது நன்னூல் சூத்திரத்தொடர்.

உ-ம். போன்ம், தரும்வளவன், எனவரும்.

கசு. உட்பெறு புள்ளி யுருவாகும்மே.

இது பகரத்தோடு மகரத்திடை வேற்றுமை செய்கிறதெனக்கொண்டு உரையாசிரியரும் நச்சினுக்கினியரும் “புறத்துப்பெறும் புள்ளியோடு உள்ளாற் பெறும் புள்ளி மகரத்திற்கு வடிவாம்” எனப் பொருளுரைப்பார். இதன்கண் பகரவடிவையும் மகர வடிவையும் சேர்த்தறகுரிய இன்றியமையாமையும், இச்சூத்திரத்தின்கண் அங்ஙனம் சேர்த்து வைத்தார் ஆசிரியர் என்பதற்குரிய சொற்கிடக்கையும் காணப்படாமையான் இச்சூத்திரத்தாற் சுட்டப்பட்ட உண்மைப்பொருள் அதுவெனக்கொள்ளற்கில்லை. ப. ம. முதலியவற்றின் வரிவடிவு இன்னதெனக் கூறாமலே ஆசிரியர் அவற்றின் வரிவடிவு வேறுபாட்டைக் கூறினாரென்றல் பொருந்தாததாம். அன்றியும் ப. ம. இவற்றின் வேறுபாடுரைக்கப்போந்த ஆசிரியர் தாம் எவ்வெழுத்துக்களுக்கு வரிவடிவு வேற்றுமை கூறுகின்றாரோ அவ்வெழுத்துக்களையென எடுத்துரைத்தன்றிக் கூற மாட்டார். மகரம் மேலச்சூத்திரத்தாற் பெறப்பட்டனும், அதனோடு வேறுபாடுகூற எடுத்துக்கொண்ட பகரத்தினை இச்சூத்திரத்து எடுத்துரையாமலே அவ்விரண்டிற்கும் வேறுபாடு கூறினாரென்றல் எங்ஙனம் பொருந்தும்?

இனி இச்சூத்திரவரிதனியே ஒரு சூத்திரமாக இருந்திருத்தலியலாது. என்னையெனின்? இதனுட் கூறப்படும் விதி இன்னதற்கென்பது பெறப்படாத நிலையில் இதனை ஒரு சூத்திரமாக ஆசிரியர் வையார். இவ்வரி, பின்வரும் “மெய்யினியற்கை புள்ளியொடு நிலையல்” என்ற சூத்திரம் மெய்களின் பொதுவியல் புரைத்தலால் அதனைத் தொடர்ந்ததாகாது எனவே மேலச்சூத்திரத்தினையே சேர்ந்ததாவேண்டும். ஆகலின் இது மகரத்தோடு மகரக் குறுக்கத்திற்கு வரிவடிவு வேற்றுமை செய்கின்றது என்பதே பொருத்தமுடைத்து.

(இ-ள்) உட்பெறு புள்ளி—புறத்துப் பெறும் புள்ளியோடு உள்ளாற் பெறும் புள்ளி, உருவாகும்—மகரக் குறுக்கத்திற்கு வடிவாம் என்று.

மேலேச் சூத்திரத்து அரைமாத்திரையினின்றும் குறுகி இசையிடனருகி வருமெனப்பட்ட மகரக் குறுக்கத்தினை, அவ்வாறு குறுகாத அரை மாத்திரை பெற்று இயல்பான மகரத்தோடு பிரித்தறிந்து கொள்ளுதற்கு அறிகுறியாக வரிவடிவில் எல்லா மெய்களுக்குமுரிய புறத்துப் பெறும்புள்ளியொடு, இக்குறுகிய மகரமெய்க்கு வரிவடிவில் உள்ளே பெறும் புள்ளியே பொருந்திய வடிவாம் என்பதைக் குறிக்கவே இச்சூத்திரம் மேலேச்சூத்திரத்தோடியைத்துக் கூறப்பட்டது. இச்சூத்திரம் மகரக் குறுக்கத்தைப்பற்றியதாயினும் வரிவடிவு வேற்றுமை கூறுதல் காரணமாக வேறே பிரித்துக் கூறப்பட்டுள்ளது; ஒரு பொருள் முதலியதே சூத்திரமாதலின் என்க.

இதனால் மெய்களுள் ஒன்றாகிய மகரத்தின் குறுகிய நிலையை அறிந்துகொள்வதற்கெனவே அக்காலத்தார், எல்லா மெய்களும் பெறுதற்குரியதாம் தலைப்புள்ளியோடு குறுகிய மகரத்தின் உள்ளேயும் ஒரு புள்ளியை இட்டு வரிவடிவில் அதனைக் குறித்துப் போந்தார்கள் எனக் கொள்ளலாம். ஓசை குறுகிய எழுத்தினைப் புள்ளியிட்டுக் காட்டு முறை யுண்டென்பது “மெய்யிறெல்லாம் புள்ளியொடுநிலையல்” என்றதன் விதியைக் “குற்றியலுகரமும்நெனமொழிப்” என அடுத்த சூத்திரத்தில் மாட்டெறிந்து ஈற்றுக் குற்றியலுகரமும் மெய்போலப் புள்ளியொடு நிற்கும் எனக் கூறுதலாற் பெறப்படும். இவ்வாறு தன்னியல்பாம் ஒரு மாத்திரையினின்றும் குறுகிய யரை மாத்திரையியல்பில் நிற்கும் குற்றியலுகரம் ஈற்றில் புள்ளிபெறுதல்போலத் தன்னரை மாத்திரையிற் குறைந்த மகரமும் புள்ளிபெறுதல் இயல்பும் முறையுமாகும்.

இவ்வாறே மகரக் குறுக்கம் இயல்பாகிய புள்ளியொடு உள்ளேயொரு புள்ளியையும் பெறுமென்பதனை வீரசோழியம் சந்திப்படலம் 19-ம் செய்யுளுள் “முன்வயிற் கால்வவ்வரின்” வருமொழி முதலில் வகரம் வந்து புணர்ந்தால் அந்த மகரமானது குறுகிக்கான் மாத்திரையாய் உட்புள்ளிபெறும்” எனப் பெருந்தேவனார் உரைகூறிப் போதலானும் நன்கறியலாம்.

கரு. மெய்யினியற்கை புள்ளியொடுநிலையல்

மேல் மகரத்திற்கும் மகரக் குறுக்கத்திற்கும் வரிவடிவு வேற்றுமைக் கறிகுறியாக மகரக் குறுக்கத்திற்கு உட்பெறுபுள்ளி யுருவாகுமென்றார். ஆண்டுப் புள்ளிபெறுதல் அதிகாரப்பட்டமையின் எல்லா மெய்களுக்கும் பொதுவாகிய புள்ளிபெறுதலை இதனால் கூறுகின்றார். இஃது உயிர்மெய்யோடு தனிமெய்யிடை வரிவடிவு வேற்றுமை செய்தல் றுதலிற்றென்பர் உரைகார்.

(இ-ள்) மெய்களின் தன்மையாவது புள்ளிபெற்று நிற்கலாம்.

கசு. எகர ஓகரத்தியற்கையுமற்றே

இதுவும் வரிவடிவு வேற்றுமை கூறுகின்றது.

(இ-ள்) எகர ஓகரங்களினது நிலையும் மெய்போலப் புள்ளிபெறும் இயல்பிற்று.

பண்டைக்காலத்து எ, ஏ ஆகிய குறில் நெடிலிரண்டிற்கும் எ, என்ற வடிவும் ஒ, ஓ ஆகிய குறில் நெடிலிரண்டிற்கும் ஓ என்ற வடிவும் வரிவடிவில் வழங்கப்பட்டன என்றும், அவற்றுள் குறிலிது நெடிலிது என்ற வேறுபாடு உணர்தற்குக் குற்றெழுத்தைக் குறிக்குமிடத்து அவ்விரண்டன்மேலும் புள்ளியிட்டெழுதினார்களென்பதும் இவ்விதியாற் புலனாம். இவ்வாறு புள்ளியிடுதல் எகர ஓகரங்களுக்கேயன்றி மெய்யூர்ந்த எகர ஓகரங்களுக்கு முண்டென்பது தந்திவர்மன் (கி. பி. 800—840) 4-ம் ஆண்டில் திருவெள்ளறைக்கிணறென்றில் வெட்டப்பட்டசாசனத்து “நான் காவ தெடுத்தி”, பெருங்கிணறு, செய்து என்ற சொற்களின் மெய்யூர்ந்த எகரங்கள் புள்ளியிட்டெழுதல் கொண்டறியப்படும்.

மேலையிரண்டு சூத்திரங்களிலேயும் குறிக்கப்பட்ட மெய்களும் எகர ஒகரமும் புள்ளி பெறுதலாகிய விதியை நன்னூலார், எழுத்துக்களின் உருவம் என்ற பகுதியில்

98. தொல்லை வடிவின வெல்லாவெழுத்துமாண்

டெய்து மெகர ஒகர மெய்புள்ளி

என்ற சூத்திரத்தாற் கூறிப்போந்தார்.

எகரமும் ஒகரமும் புள்ளி பெறுதலைப் பின் வரும் மாத்திரைச் சுருக்க அணியமைந்த செய்யுட்களாலும் நன்கறியலாம்.

“நேரிழையார் கூந்தலினோர் புள்ளிபெற நீண்மரமாம்
நீர்நிலையோர் புள்ளிபெற நெருப்பாம்”

“மயிர் நிறுவிமற்றதற்கோர் புள்ளி கொடுப்பின்
செயிர்நீர்மரமாகும் சென்று (நன். சூ. 269. மேற்)

இதன் கண் நேரிழையார் கூந்தல், மயிர் என்பன ஒதி என்று கொள்ளப்படும். அதன்கண் ஒதி எனப் புள்ளி கொடுத்தால் ஒதி என்ற மரத்தைக் குறிக்கும். அவ்வாறே நீர்நிலையென்பது ஏரி. அதனேகரத்துப் புள்ளியிட்டால் எரி என நெருப்பை யுணர்த்தும்.

உருவத்தைக் குறிக்கவந்த நன்னூலார், மகரக்குறுக்கம், குற்றியலுகரம், இவை புள்ளி பெறுமென்று தொல்லாசிரியர் கூறிய வரிவடிவை இறந்தது விலக்கல் என்னும் உத்தியால் கூறாது விலக்கினர்போலும்.

இக்காலத்து எகர ஒகரம் என்பன, மகரக்குறுக்கம் குற்றியலுகரம் என்பன போலப் புள்ளி பெறுதலையொழிந்தன.

௧௮. புள்ளியில்லா எல்லாமெய்யும்
உருவுருவாகி யகரமொடுயிர்த்தலும்
ஏனையுருவோ டுருவுதிரிந்துயிர்த்தலும்
ஆயிரியல வுயிர்த்தலாறே”

இஃது உயிருமெய்யுள் கூடுமாறுணர்த்துகின்றது. (இ-ள்.) எல்லா மெய்களும் புள்ளியில்லை யாம்படியாக தத்தம் முன்னேவடிவே இன்னும் வடிவாகவே அகரத்தோடு கூடி யொலித்தலும் ஒழிந்த உயிர்களோடு வடிவு வேறுபட்டு ஒலித்தலுமாகிய அவ் விரண்டு இயல்பினைபுடைய அவை யொலிக்கு முறைமை எ-று.

1. புள்ளியில்லையாதல் தத்தம் முன்னேவடிவே வடிவாக அகரத்தோடுயிர்த்தல். க, ந, ய, எனவருதல்.

2. ஏனையுரோடு உருவு திரிந்து வருதலாவது “மேலங்கீழும் விலங்குபெற்றும் கோடுபெற்றும், புள்ளிபெற்றும், புள்ளியுங்கோடுமுடன் பெற்று முயிர்த்தலாம். கி, ங, முதலியன மேல் விலங்கு பெற்றன. கு, கூ, முதலியன கீழ் விலங்குபெற்றன

கா, நா, முதலியன புள்ளி பெற்றன. “அருகே பெற்ற புள்ளியை இக்காலத்தார்களாக எழுதினார்” கொ, கோ, நொ, நோ, என்பன புள்ளியுங்கோடும் உடன் பெற்றன என்பர் நச்சினார்க்கினியர். இங்ஙனம் திரிந்தொலிப்பவே உயிர்மெய் பன்னிருபதினெட்டிரு நூற்றொருபத்தாறாயிற்று.

“உயிர்மெய் யென்பதனை” ஒற்றுமை கொள்வழி உம்மைத் தொகைப் புறத்துப் பிறந்த அன்மொழித் தொகையெனவும், வேற்றுமை கொள்வழி உம்மைத் தொகை யெனவங் கொள்க” என்பர் இளம்பூரணர். ஆசிரியர் உயிர்மெய்யென்பதனை வேற்றுமை நயங்கருதியே கூறுகின்றாராகலின் “உம்மைத் தொகையெனக் கொண்டார் நச்சினார்க் கினியர். சூத்திரத்தில் ‘இல்லாக’ என்பது ‘இல்லா’ என நின்றது என்பர் இளம் பூரணர்.

இங்ஙனம் மெய்யுயிரோடுகூடி ஒலிக்கும் நிலையில் உயிரளவாயடங்கி நிற்றல் காரணமாக மெய்யோசை ஆண்டுத் தோன்றா தென்பாருமுனர். “மெய்யோடியையினு முயிரியல் திரியா” என்பதனால் உயிர்மெய்க் கூட்டத்துத் திரியா உயிரியல்பினை விளக்கிய ஆசிரியர் அக்கூட்டத்து மெய்கள் உயிரோலி நிறையப்பெற்று அதனோடு அதனளவாய் அதன்முன் ஒலிக்கு மியல்பின என்பதனை இச்சூத்திரத்தாற் கூறுவர்.

கஅ. மெய்யின் வழியனுயிர் தோன்று நிலைய

உயிரும் மெய்யும் கலந்து உயிரளவாயொலிக்கும்பொழுது அங்விரண்டனாள் முன்னொலிப்பதெது பின்னொலிப்பதெது என்பதனை இதனுட் கூறுகின்றார்.

(இ-ள்.) மெய்யும் உயிருங்கலந்து உயிரளவாய் ஒலிக்கும்பொழுது மெய்யொலியின் பின்னரே உயிரொலி தோன்றி நிற்குமென்பதாம்.

இதனால் உயிர்மெய்க்கூட்டத்து மெய் முன்னும் உயிர் பின்னுமாக ஒலித்து நிற்றல் கூறப்பட்டது.

இங்ஙனம் ஆசிரியர் தொல்காப்பியனார் வேற்றுமை நயங்கருதி உயிர்மெய்யிலக் கணங் கூறினாராக, நன்னூல் பவணந்தியார் உயிர்மெய் ஒற்றுமை நயங்கருதி ஒரெழுத் தாகக் கொண்டிலக்கணங் கூறுவர்.

59. புள்ளிவிட்டவ் வொடு முன்னுருவாகியும்

ஏனையுயிரோ டுருவு திரிந்தும்

உயிரளவாயதன் வடிவொழித்திருவயிற்

பெயரொடு மொற்று முன்னாய் வருமுயிர்மெய்.

மெய் புள்ளியை விட்டு அகரத்தோடு கூடியவழி விட்டவருவே உருவாகியும், ஒழிந்த உயிர்களோடு கூடியவழி உருவு வேறுபட்டும், தன்மத்திரை தோன்றாது உயிர்மாத்நிரையே மாத்திரையாய், அதன் வரிவடிவினது விகாரவடிவே வடிவாய் உயிர் வடிவை யொழித்து, மெய்யுயிரென்னும் இரண்டிடத்தும் பிறந்த உயிர்மெய்யென்னும்

பெயருடனே ஒற்றொலி முன்னும் உயிரொலி பின்னுமாய் வரும் உயிர்மெய்யெழுத்து என்பதின் பொருள். இதன்கண் உயிர்மெய்யை ஒரெழுத்தெனக்கொண்டு விதி கூறுவதும் அதனைச் சார்பிறற்றொற்றத் தோரெழுத்தென அடக்கியுரைப்பதும் உயிர் மெய்யை ஒரெழுத்தாகக் கொண்டனர் பவணந்தியார் என்பதனை வலியுறுத்துகின்றது. இவரே பின்னர் எழுத்துக்களின் முதலீறுரைக்கப் போந்தவிடத்து “நின்றநெறியே உயிர்மெய் முதலீறே” என வேற்றுமை நயங்கூறி விதிக்கறிச் செல்லுதலும் நோக்கத்தக்கது.

கக, வல்லெழுத்தென்ப, க, ச, ட, த, ப, ந.

உ௦. மெல்லெழுத்தென்ப, ங, ஞ, ண, ந, ம, ன.

உ௧. இடையெழுத்தென்ப, ய, ர, ல, வ, ழ, ள

இம்மூன்று சூத்திரங்களாலும் மேற்கூறப்பட்ட மெய்களே வன்மை, மென்மை, இடைமையாகிய பிறப்பியற் பிரிவான் வேறுபடுத்துகின்றார்.

வல்லென்றிசைத்தலானும் வல்லென்ற நிலைவளியாற் பிறத்தலானும் வல்லெழுத் தெனப்பட்டன எனவும், மெல்லென்றிசைத்தலானும், மெல்லென மூக்கு வளியாற் பிறத்தலானும் மெல்லெழுத்தெனப்பட்டன எனவும், இடைநிகரனவாகி ஒலித்தலானும் இடைநிகர்த்தாகிய மிடறு வளியாற் பிறத்தலானும் இடையெழுத் தெனப்பட்டன வெனவும் உரையாசிரியர் கூறுவர்.

வன்மையுமென்மையும் உணர்ந்தன்றி அவற்றின் இடைப்பட்ட நிலைமை யுணர் லாகாமையின் இடையெழுத்தென்ப பிற்கூறப்பட்டது.

வல்லினத்துக் க, ச, த, ப நான்கும், மெல்லினத்து ஞ, ந, ம மூன்றும், இடையினத்து ய, வ இரண்டும் மொழிக்கு முதலாதல் நோக்கி இம்முறையே வைக்கப்பட்டன வெனவுங் கூறுவர்.

வல்லெழுத்து, மெல்லெழுத்து, இடையெழுத்து என்ற பெயரால் வகைப்படுத்திய வற்றை நன்னூலார்

68. வல்லினங் க, ச, ட, த, ப, ந, வெனவாறே

69. மெல்லினம் ங, ஞ, ண, ந, ம, ன, வெனவாறே.

70. இடையினம் ய, ர, ல, வ, ழ, ள வெனவாறே

என்ற சூத்திரங்களால் முறையே வல்லினம், மெல்லினம், இடையினம் எனப் பெயரிட்டு வழங்குவர்.

உஉ. அம்மூவாறும் வழங்கியன் மருங்கின்
மெய்ம் மயக்குடனிலை தெரியுங்காலை.

இது தனிமெய் மயக்கத்திற்குப் பெயர் கூறுகின்றது. (இ-ள்) மேற்கூறியவாறு மூன்று கூறுகப் பகுக்கப்பட்ட பதினெட்டு மெய்களும் தம்மை மொழிப்படுத்தி

வழங்குமியல்புளதாகுமிடத்து மெய்மயக்கென்றும் உடனிலையென்றும் இருவகையாம் ஆராயுமிடத்து ஏ-று.

“உயிர், மெய், உயிர்மெய், என்னும் மூன்றினையும் உறழ்ச்சிவகையான் உறழ ஒன்பது உளவாமன்றே. அவற்றுள் தனிமெய்யோடு தனிமெய் மயக்கம் ஒன்றே கூறியதென்னெனில், மற்றவற்றிற்கு வரையறையின்மையின் வரையறையுடைய தனி மெய்மயக்கமேகூறி யொழிந்தாரென வுணர்க. மெய்மென்றதனால் தனிமெய்யோடு உயிர்மெய் மயக்கமன்றி, தனிமெய்யோடு தனிமெய் மயக்கமாதல் கொள்க” என்பர் இளம் பூரணர்.

உடனிலையை உடனிலை மயக்கமெனக் கூறுவர் இளம் பூரணர். “மெய்ம் மயக்குடனிலை” என்ற இவர் பாடத்தை விடுத்து நச்சினார்க்கினியர் “மெய்ம் மயங்குடனிலை” எனப் பாடங்கொண்டு மெய்மயங்கும் நிலை, உடன் மயங்கும் நிலை என ஈரிடத்தும் மயங்குநிலை என்ற சொற்களைக்கூட்டி “மெய்மயங்கு நிலை = தனிமெய் தன் முன்னர் நின்ற பிறமெய்யோடும் தன் மெய்யோடும் மயங்குநிலையும், உடன் மயங்குநிலை = அப்பதினெட்டும் உயிருடனே நின்ற தன் முன்னர் நின்ற உயிர்மெய்யோடும் தனிமெய்யோடும் மயங்கும் நிலையும் என இரண்டாம்,” எனப்பொருள்கூறி இச்சூத்திரம் தனிமெய் பிறமெய்யோடும் தன் மெய்யோடும் மயங்கும் மயக்கமும், உயிர் மெய் உயிர்மெய்யோடும் தனிமெய்யோடும் மயங்கும் மயக்கமும் கூறுகின்ற தெனக் கருத்துரைப்பர். இவர்க்கு முன்னவராய இளம்பூரணர் கொண்ட. ‘மெய்ம்மயக்குடனிலை’. என்ற பாடமே தொன்மை கருதி ஏற்றுக் கொள்ளப்படுவதாகலானும், உயிர்மெய், உயிர்மெய்யோடும் தனிமெய்யோடும் மயங்கும் மயக்கத்திற்கு வரையறையின்மையின் அதற்கு விதி கூறப்படுவதன்றாகலானும் அவர் கூறியவாறு மெய்ம்மயங்குநிலை என்பதனுள் மெய் பிறமெய்யோடும் தன் மெய்யோடும் கலந்து நிற்குநிலை வெளிப்படப் பெறாமையானும், உயிர்மெய்யை உயிரும் மெய்யும் என ஈரெழுத்தாகப் பிரித்து விதி கூறுவார் ஈண்டு ஒரெழுத்தாகக்கொண்டு உரையாடாகலானும் உடனிலை யென்பதற்கு உயிருடன் நிறமல் எனக்கோடற்குரிய சொல்லின்மையானும் இளம் பூரணர் பாடமே ஆசிரியர் கருத்தாதல் பெறப்படும்.

ஆசிரியர் தனிமெய் பிறமெய்யோடு மயங்குநிலை மெய்ம்மயக்கு எனவும், தனி மெய் தன் மெய்யோடு மயங்கி நிற்கும் நிலையை உடனிலையெனவும் இச்சூத்திரத்திற்கு குறிப்பிட்டுரைத்தார்.

இடைநிற்கும் எழுத்துக்களின் மயக்கம் உணர்த்தப்போந்த நன்னூலார், உயிருடனுயிர்க்கு மயங்குந் தன்மையின்மையின் அதனையொழித்து மெய்யுடன் மெய் மயங்குதலும் உயிரும் மெய்யும் மாறி மயங்கலுமாகிய இவ்விரண்டினையும் இடைநிலை மயக்கத்தில் உணர்த்த எடுத்துக்கொண்டார்.

110. க, ச, த, ப, வொழித்த ஈரேழன் கூட்டம்

மெய்மயக்குடனிலை ரழவொழித்தீரெட்

டாகும் இவ்விருபான மயக்கும் மொழியிடை

மேவு முயிர்மெய் மயக்களவின்றே.

(இ-ள்) மெய் பதினெட்டனுள் க, ச, த, ப, என்னும் நான்கும் ஒழித்தொழிந்த பதினான்கு மெய்யும், பிறமெய்களோடு கூடுங்கூட்டம் வேற்றுநிலை மெய் மயக்கமாம். ர, ழ என்னும் இரண்டு மொழித்தொழிந்த பதினாறு மெய்யும் தன்னொடு தான் கூடுங் கூட்டம் உடனிலை மயக்கமாம். இவ்விரண்டு பகுதி மயக்கமும் மொழியிடைவரும். உயிருடன் மெய்யும் மெய்யுடனுயிரும் மாறி உயிரும் மெய்யுமாக மயங்கும் மயக்கத்திற்கு வரையறையில்லை; வேண்டியவாறே மயங்குமென்பதாம்.

இதன்கண் பவணந்தியார் உயிரும் மெய்யும், மெய்யும் உயிரும் மாறி மயங்கு மயக்கத்திற்கு அளவின்மெனக் கூறி இடைநிலையாக மெய்களை ஆசிரியர் தொல்காப்பியனார் கூறியவாறே மெய்மயக்கு, உடனிலை மயக்கம் என இருவகைப்படுத்திப் பெயர் கூறினார்.

இச்சூத்திரத்தான் மெய்மயங்குங்காற் க, ச, த, ப, என்னும் நான்கும் தம்மொடு தாமே மயங்குமெனவும் ர, ழ, வென்னும் இரண்டும் தம்மொடு பிறவே மயங்குமெனவும், ஒழிந்த பன்னிரண்டும் தம்மொடு தாமும் பிறவும் மயங்குமெனவும் பெற்றும்.

இவ்விருவருங்கூறிய மெய்மயக்கத்தினைப் பிற்காலத்துரையாசிரியர்கள் வேற்றுநிலை மெய்மயக்கெனவும், உடனிலையினை உடனிலை மெய்மயக்கமெனவும் பெயரிட்டு வழங்குவர். மெய்மயக்கு—தனிமெய் முன்னர்ப் பிறமெய் வந்து மயங்கும் (வேற்றுநிலை) மெய்மயக்கம். இதனை எழு சூத்திரங்களால் தொல்காப்பியனார் கூறுவர்.

உக. ட, த, ல, ள, வென்னும் புள்ளி முன்னர்க்
க, ச, ப, வென்னு முனெழுத்துரிய.

(இ-ள்) ட, த, ல, ள என்ற நான்கு மெய்களின் முன்னர்க் க, ச, த, ப என்னும் முன்று எழுத்துக்களும் தனித்தனி வந்து மயங்குவனவாம் என்று.

உச. அவற்றுள்,
ல, ள, ஃகான் முன்னர் யவவந் தோன்றும்.

(இ-ள்) முற்கூறிய நான்கனுள் லகார ளகாரமாகிய மெய்களின் முன்னர்க் க, ச, ப, க்களையன்றி யகரவகரங்களும் வந்து மயங்கும்.

இவ்விரு சூத்திர விதியையும் நன்னூலார்

113. ட, த, முன் க, ச, ப, மெய்யுடன் மயங்கும்

117. ல, ள, முன் க, ச, ப, வ, ய, வொன்றும்மே

என்ற இருசூத்திரங்களால் கூறினார்.

உரு. ங, ஞ, ண, ந, ம, ன, வெனும் புள்ளி முன்னர்த்
தத்தம் மிசைக ளொத்தன நிலையே.

(இ-ள்) மெல்லின மெய்களான முன்னரும் முறையே அவற்றவற்றிற்கினமொத்த வல்லினமெய்கள் வந்து மயங்கும்,

உக. அவற்றுள்

ண னஃகான் முன்னர்க்

க, ச, ஞ, ப, ம, ய, வவ்வேழுமுரிய

(இ-ள்) ணகார னகாரமெய்களின் முன் அவற்றிற்கினமாகிய வல்லினமெய்பேயன்றிக் க, ச, ஞ, ப, ம, ய, வ, ஆகிய ஏழு மெய்களும் வந்து மயங்குவனவாம்.

உஎ. ஞ, ந, ம, வ, வென்னும் புள்ளி முன்னர்

யஃகானிற்றன் மெய்பெற்றன்றே”.

(இ-ள்) ஞ, ந, ம, வ, என்னும் நான்கு மெய்களின் முன்னர் யகாரமெய் வந்து மயங்கும்.

உஅ. மஃகான் புள்ளிமுன் வவ்வந்தோன்றும்.

(இ-ள்) மகரமாகிய மெய்யின் முன்னர் பகர யகரங்களேயன்றி வகாரமும் வந்து மயங்கும்.

இந்நான்கு சூத்திர விதிகளையும் நன்னூலார்,

111. ந ம்முன்கவ்வாம் வம்முன்யவ்வே

112: ஞநமுன்றம்மினம் யகரமோடாகும்

114. ண னமுன் னினங் கச ஞபமயவவ் வரும்

115. “ ம ம்முன்பயவ மயங்குமென்ப

என்ற நான்கு சூத்திரங்களால் குறிப்பிடுவர்.

உக. ய, ர, ழ, வென்னும் புள்ளி முன்னர்

முதலாகெழுத்து நகரமொடு தோன்றும்.

(இ-ள்) ய, ர, ழ என்னும் மெய்களின் முன்னர் மொழிக்கு முதலாகும் க, ச, த, ந, ப, ம, வ, ய, ஞ எனும் ஒன்பது மெய்களும் முதலாகாத நகரமெய்யும் வந்து மயங்கும்.

நன்னூலார் முதலாகாத நகரத்தை அவ்வையொட்டி முதலாகுமெனக்கொண்டு இவ்விதியை

116. ய, ர, ழ, முன்னர் மொழிமுதன் மெய்வரும்

என்ற சூத்திரத்தாற் சுட்டினார்.

ஆசிரியர் தொல்காப்பியனார் பின்னிற்கும் மெய்களைத்தொகுத்து இவை இவற்றின் முன் மயங்குமெனச் சூத்திரஞ்செய்தலும் நன்னூலார் முன்னிற்கு மெய்களைத்தொகுத்து அவைகளோடு இன்னின்ன மெய்கள் வந்து மயங்குமெனக்கூறலும் இவ்விருவர் செய்த சூத்திரங்களையும் நோக்கிப்பலனாம்.

நட. மெய்நிலை சுட்டி நெல்லாவெழுத்தும்

தம்முன் தாம் வருஉம் ர ழ வ ல ங்கடையே.

இது நிறுத்த முறையானே உடனிலை மெய்யக்கமாமாறு கூறுகின்றது.

(இ-ள்) பொருள் நிலைமையைக்கருதின எல்லா மெய்களும் தம்முன் தாம் வந்து மயங்கும்; ரகர முகரங்களல்லாதவிடத்து எ-று.

மெய்நிலை சுட்டின் என்றதனால் தனிமெய் முன்னர் உயிரேறிய மெய் வருமெனக் கொள்க. எல்லாமென்றது ரகர முகர மொழிந்தவற்றை. இவ்வுடனிலை மயக்கத்தை நன்னூலார்

118. ர ம வ ல் ல ன தம் முற் றுமுட னிலையும்
என்றதனால் குறிப்பிட்டார்.

நக. அ, இ, உ, அம்முன்றுஞ் சுட்டு.

(இ-ள்) அ, இ, உ, என்று கூறிய அம்முன்றுஞ் சுட்டென்னுங் குறியினையுடைய எ-று.

இதுவும் இதற்கடுத்த சூத்திரமும் எழுத்தாம் தன்மையின்றி மொழிநிலைமைப்பட்டு நிற்கலின் மொழி மரபினைச்சாரவைத்தார் என்பர் உரைகாரர்.

சுட்டியறியப்படும் பொருளை யுணர்த்தலின் சுட்டென்பது காரணப்பெயர்.

அக்கொற்றன், இக்கொற்றன், உக்கொற்றன் எனவரும் அ, இ, உ என்ற மூன் றெழுத்தும் மொழி முதலிலே தனியே நின்று சுட்டுப்பொருளை யுணர்த்தி நிற்கல் மேற்காட்டிய உதாரணங்களாற் புலனாம். ஆசிரியர் தனியே சுட்டு என்ற பெயரைக் குறிப்பிடும்போதெல்லாம் இம்மூன்றெழுத்தைத் தவிர வேறென்றையுஞ் சுட்டாமை யும் இதனை வலியுறுத்தும்.

இவ்வாறு நன்னூலாரும் அ, இ, உ, இம்மூன்றெழுத்தும் மொழிமுதற்கண் புறத்தே தனித்துச் சுட்டுப் பொருளுணர்த்தவரிற் சுட்டெழுத்தாமென்பதனை.

66. அ, இ, உ ம்முதற்றனிவரிற் சுட்டே
என்பதனால் குறிப்பிட்டார்.

இங்ஙனம் ஆசிரியர் தொல்காப்பியனாரும் உரைகாரரும் பவணந்தியாரும் மொழிக்கு முதலிற் தனித்துச் சுட்டுப் பொருளுணர்த்திவரும் அ, இ, உ என்ற இம் மூன்றையுமே ஈண்டுச் சுட்டெனப் பெயர் கூறினாராகப் பின்வந்த நன்னூலுரைகாரர் “முதலெனப் பொதுப்படக் கூறினமையாற புறத்தும் அகத்தும் வருதல் பெற்றும்” எனக்கொண்டு அவர் கூறிய தனிவரின் என்றதனையும் நோக்காது “அவன் என்பதன் அகரம், அறம் என்பதன்கண் அகரம் போலப் பின்னெழுத்துக்களோடு தொடர்ந்து நின்று ஒரு பொருளை யுணர்த்தாது மலையன் என்பதன்கட் பகுதி போல வேறு நின்று சுட்டுப் பொருளுணர்த்தலின் அகத்துவரும் இதனையும் தனிவரின் என்றார்” என அமைதி கூறி அவன் இவன் உவன் என்ற பெயரையும் உதாரணங் காட்டினர். அவர் கள் அகத்து வருவதாகக் கொண்ட இதன்கண் சுட்டெழுத்தும் சுட்டப்படும் பொருளும் அக்கொற்றன் என்ற விடத்துப்போல வேறு நிலலாது ஒரு பெயர்ப்பட்டு

நிற்றலான் அ, இ, உ முதலிய எழுத்துக்கள் இதன் முதற்கண் மலையன் என்பதன்கட் பகுதிபோல பிளவுபட்டுத் தனியே நின்றன வெனக்கொள்ளல் பொருந்தாது. ஆசிரியர் தொல்காப்பியனார் சுட்டு என்ற பெயரினை அ, இ, உ என்ற எழுத்துக்களுக்கே இட்டு வழங்கினார். அவையடியாகப் பிறந்த பெயர்களைச் ‘சுட்டுப் பெயர்’ எனக் குறிப்பிட்டுச் சொல்லதிகாரத்து வழங்குவார். (சொல், கிளவி. கு. ஈய, ஈக)

அவன், இவன், உவன்,	அவள், இவள், உவள்,
அவர், இவர், உவர்,	அது, இது, உது,
அஃது, இஃது, உஃது,	அவை, இவை, உவை.
அவ், இவ், உவ்.	

என்றற்கு பல திறப்படுத்திப் பெயரியலுள் வழங்கியுள்ளார். அ, இ, உ, என்பனவற்றைக் குறிக்கும்போது சுட்டு என்ற சொல்லை வழங்கியும், அது, அவ் முதலியவற்றைக் குறிக்கும்போது சுட்டு முதலாகப் சுட்டு முதலாகிய வகரவிறுதி, என்று கூறிச் சுட்டிய யாகப் பிறந்ததெனக் குறிப்பிட்டும் சொல்லுதல் நோக்கத்தக்கது

௩௨. ஆ, ஏ, ஒ அமமுன்றும் வினா.

இது நெட்டெழுத்தென் தவற்றுட் சிலவற்றிக்கு வேறோர் குறியீடு கூறுகின்றது.

(இ-ள்) ஆ, ஏ, ஒ என்ற மூன்றும் வினா என்னும் பெயரினையுடையன. ஏ-று.

வினாப்பொருளுணர்த்தலின் வினாவாயிற்று. உண்கா, உண்கே, உண்கோ எனவரும். ஆசிரியர் ஈண்டு ஆ, ஏ, ஒ, என எழுத்தாம் நிலைமையில் நின்று வினாப்பொருள் உணர்த்தி வரும் மூன்றையும் வினாவெனக் குறியீட்டுரைத்தார். சொல்லாம் நிலைமையில் நின்று யாவன், யாவள், யாவர், என உயிர்திணைக்கண்ணும் யாது, யா, யாவை, யென அஃறிணைக்கண்ணும் பெயராகவும், உயர்த்திணைக்கண் யார் எனவும், அஃறிணைக்கண் எவன் எனவும் வினாவினைக்குறிப்பாயும் வருவனவற்றை முறையே சொல்லதிகாரத்துப் பெயரியல் வினையியல் இவற்றிற் கூறிப்போந்தார். எவ்வயின் எதோளி, என எனா முதலாக வயின் என்பதும் இகர விருதியும் ஒட்டியொருசொல் நீர்மைப்பட்டு இடப்பொருளுணர்த்தி இங்ஙனம் வினாவாய் நிற்கும் இடைச்சொற்களை வினாவெனத் தழுவினர் (எழுத்து காட்டு. கருசு). இவை சொன்னிலைமைப்பட்டு வினாப்பொருளுணர்த்தி நிற்றலின் எழுத்தாம் நிலைமையில் நின்று ஈண்டுப் புணர்ச்சிக்கட்படும் ஈற்று வினாவாகிய ஆ, ஏ, ஒ, என்றவற்றுள் இயைத்துரைக்கப்படாவாயின.

௧௮௨. “ என்றறிசொன்முன் யாதென் வினாவிடை ”

௧௮௩. “ யாவென்வினாவுமாயியல் திரியாது ”

௧௮௪. “ யாதென் வினாவினையெனியுதி ”

என இவ்வதிகாரத்தும் வினாவெனக் கொண்டு, யாவன், யாவள், யாவர், யா, யாவை, எனப் பெயரியற்கண்ணும்.

“ யாஅரென்னும் வினாவின் கிளவி

அத்திணை மருங்கின் முப்பாற்கு முரித்தே ”

(வினை. ௨௧௩)

“அத்திணை மருங்கினிருபாற் கிளவிக்கும்

ஒக்குமென்ப எவனென் வினாவே

(உகசு)

என வினையியற்கண்ணும் எடுத்துரைத்தமையால் வினாச்சொல்லை வினாப்பெயர், வினாவினைக்குறிப்பு என இருவகைப்படுத்தினாரென்பதறியலாம். ஈண்டுக் குறிப்பிட்ட ஆ, ஏ, ஓ; மூன்றும் இருநிணையம்பாற் பெயரிறுதிகளோடுஞ் சேர்ந்து வினாப் பொருளுணர்த்தி நின்றலும், சொன்னிலைப்பட்டுவரும் யாவன் முதலிய பெயரும், வினாவினைக்குறிப்பும், அவ்விருநிணையுள் ஒன்றும் ஒருபாற் பொருளின்கண் நின்றலும் கொண்டு, இவை பொருளாணம் வேறுபாடுடைய என்பது அறியப்படும். இனி எவ்வயின் எதோளி முதலியவை எகரத்தை முதலாகக்கொண்டு வரினும் இகரவிகுதியும் பெற்று ஒரு சொல்லாய் நின்று இடப்பொருளுணர்த்தி வினாவாய் வருதலின் இடைச் சொல்லாயின.

இனி இளம்பூரணர் இரூபத்திரத்தில் “தன்னினமுடித்தல் என்பதனால் எகரமும் யகர ஆகாரமும் வினாப்பெறுமெனக்கொள்க”. எனத் தழுவிக்கொண்டார். இக்கருத்தே பற்றி நன்னூலாரும்.

67. ஏ, யா, முதலும் ஆ, ஓ, ஈற்றும்

வாயிருவழியும் வினாவாகும்மே.

எனச் சூத்திரஞ் செய்தனர்.

(இச்சூத்திரத்தில் ஆசிரியர் பவணந்தியார் வினாவாக வருமெனக் கூறிய ஆ, ஏ, ஓ ஆகிய ஈற்று வினாவில் எழுதலினும் வருமெனக் குறிப்பிட்டது, எது என்பது முதலாக வரும் பிற்காலத்து வழக்கு நோக்கியாதல் வேண்டும்).

இவர் கூறியவாறு எகரம் வினாவாய் வருமென்றால் அ, இ, உ என்றவற்றைச் சுட்டுமெனக் குறிப்பிட்ட ஆசிரியர் எகரத்தையும் வினாவென அடக்கிக் கூறியிருப்பார். வயிர்மயங்கியலில் அ, இ, உ என்றவற்றிற்கு அவ்வவ்வீற்றின்கண் புணர்ச்சி விதிக்கூறிய ஆசிரியர், எகரம் தனி நின்று வினாப்பொருளுணர்த்தாமையின் அதனையும் எகர வீற்றுள் எடுத்துக்கூறிப் புணர்ப்பார். அவ்வாறெடுத்தோதாமையானும் “சுட்டுமுதல் வயின் என்றும் போல ‘எகர முதல்வயின் என எழுத்தே பற்றிக்கூறி எகரம் இகரம் முதலியவைகளோடு கூடி ஒரு சொல்லாகிய நிலையிலேயே, அவ்விடைச் சொல்லை வினாவெனக் குறிப்பிட்டுச் சேறலானும் எகரமொன்றே மொழிமுதலிற்றணித்து நின்று வினாப் பொருளுணர்த்திநின்றென்றல் தொல்காப்பியனுக்குடன்பாடன்று.

இனி அஃறிணைப்பன்மைப் பெயராய் நின்று வினாப் பொருளுணர்த்தும் யாவென்னும் பெயரினை மொழி முதலினின்றும் வினாப்பொருளுணர்த்தும் எழுத்தாகக்கொண்டு, இரு நிணையம்பாற் பெயரினும் வினையினும் பின்னின்று வினாப்பொருளுணர்த்தும் எழுத்துக்களோடியைத் துரைத்தல் பொருந்தாது. அன்றியும் யாவொன்றனை வினாவெழுத்தாகக்கொண்டு அதனோடு துவ்விகுதியும் வைவிகுதியும் சேர்ந்து யாது, யாவை என வாயிற்றெனக் கொள்ளின் யா என்பதனை, அஃறிணைப்பன்மைப் பெயராகக்கொண்ட

தொல்காப்பியனார் கருத்தோடு முரணி யாவென்பது ஐம்பாற்கு முரித்தெனப் பொருள் படுதலானும் ஐம்பாற்குமுரிய யாவென்பது இலக்கியங்களிலும் வழக்கிலும், அஃறிணைப் பன்மைப் பொருளுணர்த்தி நின்றலானும் ஆசிரியர் கருத்திதன்மென்க.

இனி, எ, என்பதனைத் தனியேவரும் வினாவெழுத்தாகக்கொண்டு எப்பொருள் என நின்றும் உயர்திணைக்கண் அன்விருதிபெற்று எவன் என்று ஆண்பாலுணர்த்தியும் நிற்கு மெனக் கொள்வோர் பிற்காலத்துரையாசிரியர்கள்.

“எப்பொருளாயினும்” என்ற தொல்காப்பியச் சூத்திரத்தொடர்க்கு எகரத்தைத் தனியே வந்த வினாவெழுத்தாகப் பிரித்து “எந்தப்பொருளாயினும்” எனப் பிற்காலத் தார்போலப் பொருளுரையாது “யாதானு மொருபொருளையாயினும்” எனச் சேனுவரையர் கூறிப்போதலால் யாதுபொருளாயினும் என்பதே எப்பொருளாயினு மென ஒரு மொழியாய்த் திரிந்து நின்றதென்பது அவர் கருத்தாதலையலாம்.

எவன் என்ற வினா உயர்திணைக் குறித்தன்மென்பதை “அஃதேல் நமக்கிவன் எவரும்” என உயர்திணைக்கண்ணும் வருமாலெனின்—ஆண்டு அது முறைபற்றி நின்றவின் அஃறிணைக்கண் வந்ததெனவே படுமென்பது:—அஃதேல் நமக்கிவன் என்ன முறையனும் என்பதல்லது, என்ன முறையாம் என்பது பொருந்தாதெனின் என்ன முறையென்பது ஆண்டுமுறைமே னில்லாது ஒற்றுமை நயத்தான் முறையுடையான் மேனிற்றவின் அமையுமென்க” என வினாவிடைகளான் வற்புறுத்தினார். ஈண்டு எவன் என்பது அஃறிணையிருபாற்குமுரிய வினாவினைக் குறிப்பாம். அஃறிணை வினா வாய் வரும் எவன் என்னும் வினைக்குறிப்புச் சொல்லே அத்திணைக்கட் பெயராகவும் ஆசிரியர் காலத்திற்குப்பின் வழங்கத்தொடங்கியது. இப்பெயர்ச்சொல் “இன்சொலினி தின்மல் காண்பானெவன் கொலோ—வன்சொல் வழங்குவது” எனத் திருக்குறளிலும் வழங்குகிறது. இதைப்பற்றி ‘எவனென்பதோர் பெயருமுண்டு; அஃதிக்காலத்து என் னென்றும் என்னை யென்றும் நிற்கும்” எனச் சேனுவரையர் கூறுதலால் எவன் என்னும் அஃறிணை வினாப்பெயர் பிற்காலத்து என், என்னை, என்று திரிந்து வழங்கப்பெறும் என்பதும் பெற்றும். சேனுவரையர் எவன் என்பதனை ஆசிரியர் கருத்தாக வினைக்குறிப் பெனக்கொண்டு அச்சொல் உயர்திணை குறிப்பதன்று என வற்புறுத்திக் கூறினமை யானும், யாவன் என்பது முதலாக உயர்திணை வினாப்பெயரைக் குறிப்பிட்டுச் சென்ற தொல்காப்பியனார் தங்காலத்து எவன் என்ற வினா உயர்திணை யாண்பாலேச் சுட்டி நிற்குமாயின் அதனைக் கூறுதிரார் ஆகலானும் அவர்காலத்து எவன் என்ற சொல் உயர் திணை வினாப் பெயராய்நின்றதன்மென்பது புலனும்.

ஆசிரியர் காலத்துக்குப் பின்னர் யாது யாவை யென்பன முறையே எது, எவை எனவும், யாவன், யாவன், யாவர் என்பன முறையே எவன், எவன், எவர், எனவும் திரிந்து வழங்கியதாதலால் உரையாசிரியரும் நன்னூலாரும், எகரத்தை வினா வெழுத் தாகத் தழுவிக்கொண்டனர் போலும். இங்ஙனம் யாது முதலியவற்றின் யா என்னும் உயர்மெய் எகரமாகத்திரியும் முறைமைத்தென்பதை யான் யாம் என்பவற்றின் முதல் யகரமெய் கெட்டு ஆகாரம் எகரமாகத்திரிந்து என், எம், என நிற்கும் எனக்கிளந்த

அவற்றின் இயல்பான் உணர்ந்து கொள்ளவைத்தார் ஆசிரியர். ஆதலான் அவ்வியல்பு முறை பற்றியே அச்சொற்களின் யகர ஆகாரம் எகரமாகத்திரிந்ததெனக் கொள்ளல் பொருத்தமுடைத்து.

நட. அளபிறந்துயிர்த்தலும் ஒற்றிசை நீடலும்
உளவென மொழிப இசையொடு சிவணிய
நரம்பின் மறைய என்மனாற்புலவர்.

இஃது எழுத்துக்கள் முற்கூறிய மாத்திரையின் நீண்டு நிற்குமிடம் இதுவெனக் கூறுகின்றது

(இ-ள்) எழுத்துக்கள் தமக்குச் சொன்ன அளபினைக்கடர் தொலித்தலும் ஒற்றெழுத்துக்கள் அரை மாத்திரையின் நீண்டொலித்தலும் உளவென்பர் ஆசிரியர். அங்ஙனம் உளவாதலும் குரல் முதலிய எழிசையோடு பொருந்திய நரம்பினையுடைய யாழினது இசை நூலிடத்தன எனச்சொல்லுவர் புலவர் எ-று.

ஒற்றிசை நீடலு மெனவே முன்னர் அளபிறந்துயிர்த்தலும் என்ற விதி ஒற்றல்லாத வுயிரெழுத்துக்களுக்கென்பது பெறுதும். இசையின் அளவிறந்திசைக்குங்கால் உயிர் பன்னிரண்டு மாத்திரையீராகவும், ஒற்று பதினொரு மாத்திரையீராகவும் இசைக்கு மென்பர் இசை நூலார். அவர் கொள்கையை இயற்றமிழாசிரியராகிய இவர் “பிறநூன் முடிந்தது தானுடம் படுதல்” என்னும் உத்தியாற்றமுவினர். நன்னூலார் இசைநூலிடத்து எழுத்துக்கள் தத்தம் மாத்திரையினைக் கடந்தொலித்தலோடு விளி பண்டமாற்றுதல் முதலியவற்றின் கண்ணும் அவை அங்ஙனமிசைக்கு மெனக்கொண்டு

99. ஆவிபுமொற்று மளவிறந்திசைத்தலும்

மேவுமிசை விளி பண்டமாற்றுதியின்

எனச் சூத்திரஞ் செய்தனர்.

இனி இச்சூத்திரத்து ஆதி யென்றமையான் நெற்போர் தெழிக்கும் பகட்டினங்களைத் தூரக்குஞ் சொல்லாகிய ‘நாவல்’ என்பதன் கண்ணும் குறிப்பிசை முறையீடு புலம்பல் முதலியவற்றின் கண்ணும் உயிரும் ஒற்றும் அளபிறந்திசைக்கு மெனக் கொண்டார் பின் வந்த உரைகாரர்.

நச்சினார்க்கினியர் ‘அளபிறந்துயிர்த்தலும்’ என்னுஞ் சூத்திரத்தில் இசையொடு சிவணிய என்பதற்கு இசைத்தலோடு பொருந்திய நால்வகைச் செய்யுட் கண்” எனப் பொருள் கூறி உயிரும் ஒற்றும் செய்யுட் கண் அளபிறந்திசைக்கு மெனக்கொண்டார். இசையொடு சிவணிய என்ற சொற்றொடர் நரம்பின் மறைய என்பதன் அடைமொழி யாகவின் அது கருத்தன்மென்பது பெறப்படும்.

தொல்காப்பியச் செய்யுளியல் ஆராய்ச்சி

பேராசிரியருரை *

வித்துவான் - மு. அருணாசலம் பிள்ளை,
தமிழ் ஆசிரியர், அண்ணாமலைப் பல்கலைக் கழகம்.

தொல்காப்பியமென்னும் இயற்றமிழ்ப் பேரிலக்கணப் பெருநூலானது, இடைச் சங்க காலந்தொடங்கி இன்றுகாறும் நின்று நிலவும் ஒப்புயர்வற்ற விழுமியதோர் நூலாகும்¹. இதுவே, வடமொழிக்கண் வழங்குவரும் இருக்கு முதலான நான்மறை கட்டும் பாணினியம் முதலான வியாகரணங்கட்டும் முன்னெழுந்ததென்பது முற் காலத்துத் தமிழறிஞர் பலருடைய கருத்தாகும்². இவ்வியல் நூலானது, தெய்வத் திருமுனிவராகிய அகத்தியருடைய மாணக்கர் பன்னிருவருள் தலைவராய் விளங்கிய தொல்காப்பிய முனிவரால்³ எழுத்து, சொல், பொருளென்னும் மூன்றதிகாரங் களாகவும், ஒவ்வொருதிகாரத்திற்கும் தனித்தனி ஒன்பது இயல்களாகவும் தொகுத்து

* பேராசிரியர் உரையென்பது, திரு. S. கணகசபாபதிப் பிள்ளையவர்கள் பதிப் பித்த தொல்காப்பியப் பொருளதிகாரப் பேராசிரியருரைப் புத்தகத்தைக் குறிக்கும். இக்கட்டுரையிலும் கீழ்க்குறிப்பிலுங் காட்டப்படும் பக்க எண்கள் அப்புத்தகத்தின் பக்க எண்களாம்.

1. “கடைச்சங்கத்தாருள் களவியற் பொருள்கண்ட கணக்காயனார் மகனார் நக்கீரர் இடைச்சங்கத்தார்க்கும் கடைச்சங்கத்தார்க்கும் நூலாயிற்றுத் தொல்காப்பிய மென்றார்.” (தொல்-மரபு-பக்-1353 பேர்)

“தொகுத்துச் செய்யப்பட்டு வழக்கு நூலாகிய தொல்காப்பியம் இடைச்சங்க முதலாக இன்றுகாறும் உளதாயிற்று.” (பக்-1357-பேர்)

2. “நான்கு கூறுமாய் மறைந்த பொருளுமுடைமையால் நான்மறை யென்றார்; அவை, தைத்திரியமும் பௌடிகமும் தலவகாரமும் சாமவேதமுமாம். இனி இருக்கும் யசுவம் சாமமும் அதர்வணமும் என்பாருமுளர். அது பொருந்தாது, இவர் இந்நூல் செய்த பின்னர் வேதவியாதர் சின்னாட் பல்பிணிச் சிற்றறிவினோர் உணர்தற்கு நான்கு கூறாக இவற்றைச் செய்தாராகலின்” (தொல்-பாயிரம்-நச்-உரை)

“ஐந்திர நிறைந்த, தொல்காப்பியனெனத் தன் பெயர் தோற்றி” (தொல்-சிறப்புப்பாயி-பனம்பாரனார்)

3. “அகத்தியர் வழித்தோன்றிய ஆசிரியர் எல்லாருள்ளும் தொல்காப்பியனாரே தலைவரென்பது எல்லா ஆசிரியருங் கூறுப” (பக்-1353-பேர்)

பன்னிருபடலம், வெண்பாமாலைப் பாயிரங்களும் பார்க்க. (தொல்-பொருள்-பக். 1354-பேர்)

இயற்றப்பட்டுள்ளது. இதனால் பண்டைத்தமிழ் மக்களுடைய அரசியல் முறை, போர் செய்யுந்திறன், காதல் மணமுறைகள், இயற்கைப் பொருளாராய்ச்சி, உண்மைப் பொருளுணர்ச்சி, அறகெறி பிறழாதொழுகும் அமைதி, அறிவின் மேம்பாடு, செய்யுளியற்றும் சீர்மை, உரை வகுக்கும் ஆற்றல், தொழிற் பாகுபாடுகள் முதலான ஒழுக்க வழக்கங்கள் பல அறிதல் கூடும். இற்றைக்கு ஐம்பதாண்டுகளுக்கு முன்னர், இவ்வரிய நூலைக் கற்றுத்தெளிந்தார் மிகச்சிலரேயாவர். அறிவுந் திருவும் மருவிய குரிசிலாகிய பாண்டித் துரைச்சாமித் தேவரவர்களால் தமிழ்நாடு செய்த தவப்பயனாக நிறுவப்பெற்ற மதுரைத் தமிழ்ச்சங்கக் கலாசாலையில் மாணவர்கட்கு இந்நூல் பாடமாக வைக்கப் பெற்றமையாலும், பின்னர், பின்னே, அண்ணாமலைப் பல்கலைக் கழகங்களிலும் அவ்வாறே விதிக்கப்பட்டமையாலும் இந்நாளில் இதனைப் பலரும் படித்தறிந்து இன்புறுவாராயினர். இந்நூல் முழுதூக்கும், சில பலபாகங்கட்கும் இளம் பூரணர், பேராசிரியர், சேனாவரையர், நச்சினுர்க்கினியர் முதலான நல்லிசைப் புலவர்களால் அறிதின் ஆய்ந்து எழுதப்பட்ட நல்லுரைகள் வெளிவந்துள்ளன. ஆயினும், அவ்வுரைகள் காலப் பழமையாலும், எடு பெயர்த்தெழுதுவோர் கற்போர் கற்பிப்போர் என்னும் இவர்களாலும் பல மாறுதல்கள் அடைந்துள்ளன ஆதலால், அவை நாளடைவில் திருத்தமும் தெளிவும் பெற்று உண்மை வடிவில் புலப்படுதல் இன்றியமையாததாகும்.

சென்ற ஆண்டில் வித்துவான் முடிவு வகுப்பு மாணவர்கட்கு இந்நூலின் ஒரு பகுதியாகிய பொருளதிகாரத்திற் சில இயல்களைப் பாடஞ்சொல்லி வருங்கால், செய்யுளியலிற் பல இடங்கள் புலவர் பெருமக்களால் ஆய்ந்து முடிவு செய்யபத்தக்கன வாயும் திருத்தம் பெறவேண்டுவனவாயும் காணப்பட்டன. அவற்றுட் சிலவற்றையான் அறிந்த அளவில் ஈண்டு எழுதத்துணிந்தேன். அவை மாணவர்க்கு ஒரு சிறிது பயன்படுதலுடன், புலமையாளர் மேலுமேலும் கருத்தானறி உண்மை தெளிதற்கும் இடந்தருமென நம்புகின்றேன். அவை வருமாறு :—

ஒல்காப் புலமைத் தொல்காப்பியனார், செய்யுளியல் முதற் சூத்திரத்தில், செய்யுட்கு உறுப்பாவன முப்பத்துநான்கெனவும், அவற்றுள், மாத்திரை முதல் வண்ணம் ஈறாகக் கூறப்பட்ட இருபத்தாறும் தனிநிலைச் செய்யுட்கண் ஒன்று ஒன்றனை இன்றியமையாது உறுப்பாகியும், அம்மைமுதல் இழைபு ஈறாகக் கூறப்பட்ட எட்டும் பெரும் பான்மையும் தொடர்நிலைச் செய்யுட்கு உறுப்பாகியும் சிறுபான்மை தனிநிலைச் செய்யுட்கு ஒரோவொன்று உறுப்பாகியும் வருமென்பது தோன்றவம் அவற்றின் பெயரும் முறையும் தொகையுங்கூறி, பின்னர் 24:2 சூத்திரங்களால் அவற்றின் இலக்கணங்களைத் தனித்தனியே விரித்துரைக்கின்றார். இதற்கு உரை வகுத்த பேராசிரியரும், இம் முதற் சூத்திரத்தின்கீழ், இவ்வுறுப்புக்களின் பொதுவியல்புகளைச் சிறு சிறு குறிப்புக்களால் ஒருவாறு புலப்படுத்திப் பின்னர்த் தம் மதிநுட்பமும் நூலறிவுந் தோன்ற இவற்றின் சிறப்பியல்புகள் அனைத்தையும் அவ்வச் சூத்திரத்தின் கீழ் எஞ்சாது விரித்தெழுதிச் செல்லுந்திறன் கற்பார்க்கு உவப்பும் வியப்பும் ஒருங்கூட்டி உணர்ச்சியளிப்பதாகும்.*

* செய்யுளியற்கு உரையாசிரியர், நச்சினுர்க்கினியர் இயற்றிய உரைகளும் உள்ளன.

அவற்றுள் களம் என்னும் உறுப்பிற்கு முதற் சூத்திர உரையில் எழுதப்பட்டுள்ள இலக்கணக் குறிப்பு முதலில் ஆராயத்தகுரியது. “களன்” என்பது முல்லை குறிஞ்சி முதலாயினவும் இரவுக்குறி பசுந்தறி முதலாயினவும் உணரச்செய்தல்: மற்றுத் தன்மை முன்னிலை படர்க்கையுமாம்” என்பது பேராசிரியருரை. பின்னர் இவ்வுறுப்பின் சிறப்பிலக்கணங்கூறிய,

“ஒருநெறிப் பட்டாங் கோரியல் முடியும்

கரும் நிகழ்ச்சி யிடமென மொழிப”

(பக். 1264)

என்னுஞ் சூத்திர உரையில், ஒருநெறிப் பட்டாங் கோரியல் முடிதலாவது “காட்சியும் ஐயமும் துணிதலும் புணர்ச்சியும் நயப்பும் பிரிவச்சமும் வன்புறையும் என்றின் னோரன்னவெல்லாம் ஒரு நெறிப்பட்டு இயற்கைப்புணர்ச்சி யென்னும் ஓரிலக்கணத்தால் முடிதல். கரும்நிகழ்ச்சி யென்பது காமப்புணர்ச்சி யென்னும் செயப்படுபொருள் நிகழ்ச்சி; அஃது இடமெனப்பட்டது. இது வினை செய்யிடம். நிலமாயின முன்னர்த் திணையெனப்பட்டன. காலம் முன்னர்ச் சொல்லும்” எனக்கூறி,

“எலுவ சிறுஅர் எம்முறு நண்ப

புலவர் தோழ கேளா யத்தை

மாக்கடல் நடுவண் எண்ணுட் பக்கத்துப்

பசுவெண் டிங்கள் தோன்றி யாங்குக்

கதுப்பயல் விளங்கும் சிறுநுதல்

புதுக்கோள் யானையிற் பிணித்தற்றா லெம்மே” (குறந். 129)

“கேளிர் வாழியோ கேளிர் நானுமென்

நெஞ்சுபிணிக்கொண்ட அஞ்சில் லோதிப்

பெருந்தோட் குறுமகள் சிறுமெல் லாகம்

ஒருநாள் புணரப் புணரின்

அரைநாள் வாழ்க்கையுப் வேண்டலென் யானே” (குறந். 280)

என்னும் பாடல்கள் இரண்டையும் உதாரணமாகக் காட்டி, இவை பாங்கற் கூட்டமே இடனாக ஒரு வழிப்பட்டு ஓரியலால் முடிந்தன. என அவரே யெழுதியுள்ளார். இவற்றால், இடமாவது, இயற்கைப் புணர்ச்சி இடந்தலைப்பாடு பாங்கற்கூட்டம் முதலாயின உணரச்செய்தல் என்பது பெறப்படுகின்றது. ஆகவே, களன் என்னும் உறுப்பிற்கு இலக்கணமாவது, முல்லை குறிஞ்சி முதலாயினவும் இரவுக்குறி முதலாயினவும் தன்மை முதலாயினவும் உணரச்செய்த லெனவும், இயற்கைப் புணர்ச்சி முதலிய கரும் நிகழ்ச்சியை உணரச்செய்த லெனவும் ஈரிடத்தும் வேறு வேறுகக் காணப் படுதலின் இவற்றுள் கொள்ளத்தக்கது யாதோ என்னும் ஐயந்தோன்றாதல் இயல்பே யாம். இங்ஙனம் உரை மாறுபாட்டால் ஐயநிகழுங்கால், இவற்றுள் நூலாசிரியர் கருத்து யாதாகலாம் என மூல சூத்திரத்தை உற்றுநோக்குதல் வேண்டும். அங்ஙனம் நோக்குங் கால், முந்து நூல் கண்டு முறைப்பட எண்ணிப் புலந்தொகுத்த ஆசிரியர் தொல்

காப்பியர் “ஒருநெறிப் பட்டாங்கு ஓரியல் முடியும், கரும் நிகழ்ச்சி யிடமென மொழிப்” என்னுஞ் சூத்திரத்தால், பலவும் ஒரு வழிப்பட்டு ஓரிலக்கணத்தால் முடியும் கரும் நிகழ்ச்சியே இடமெனவும், இது முதனூலாசிரியர்க்கும் தமக்கும் ஒத்த கருத்து என்பது தோன்ற “மொழிப்” எனவும் விதந்து கூறியிருப்பது தெரியலாம். அச்சிறப்புச் சூத்திரத்திற்கேற்ப அங்கு அவ்வாறு உரை வகுத்த சீர்சாஸ்புலமைப் பேராசிரியரே இங்கு இவ்வாறு எழுதியுள்ளாரெனின், இவ்விரண்டனையும் இயைத்துப் பொருள்கோடல் ஏற்புடைத்து. அஃதாவது, முல்லை குறிஞ்சி முதலிய முத்திறத்தனவும், இயற்கைப் புணர்ச்சி முதலிய கரும் நிகழ்ச்சியும் தம்முள் இயைதல் வேண்டுமென்பது. இயையுமாயின் ஈரிடத்து இரு வேறுவகையாக எழுதியிருப்பதும் பொருந்துவதாகும்.

முல்லை குறிஞ்சி யென்பவற்றிற்கு நிலம் ஒழுக்கம் என்னும் இரண்டும் பொருளென்ப ஆதலின், ஈண்டு நிலமெனக் கொள்ளலாமெனின் “நிலமாயின முன்னர்த் திணையெனப்பட்டன” என அப்பொருள் இவரால் விலக்கப்பட்டது. இனி, அதனை யொழித்து இருத்தல் முதலிய ஒழுக்கமெனக் கொள்ளலாமெனின்,

“கைக்கிளை முதலா எழுபெருந் திணையும்

முற்கிளர் தனவே முறைநெறி வகையின்”

(பக். 1249)

என்னுந் திணையுறுப்பிற்கு இலக்கண முணர்த்திய சூத்திர உரையில், கைக்கிளை முதலிய அகத்திணை யேழும், வெட்சி முதலிய புறத்திணை யேழும், இவற்றுக்குப் பொதுவாகிய காரணையும் ஆகிய பதினேந்து திணையுள் ஒன்று செய்யுட்கு உறுப்பாகி வரல் வேண்டுமென்பது ஆசிரியர் கருத்து என்பது தோன்ற இவரே விளக்கி யெழுதியிருக்கின்றார், அதனோடும் அமையாது, பின்னர், காலம் என்னும் செய்யுளுறுப்பின் இலக்கணங் கூறுமிடத்தும் “முதலுந் கருவும் உரிப்பொருளுந் கூட்டித் திணையாம்” எனவும் எழுதாநிற்பர். ஆகவே முல்லை குறிஞ்சி முதலியன, நிலமெனக் கொண்டாலும் ஒழுக்கமெனக் கொண்டாலும் திணையென்னும் பிறிதோருறுப்பினுள் அடங்குமன்றிக் களனென்னும் உறுப்பினுள் அடங்காவென்பது நன்கு தெளியப்பட்டது.

அன்றியும், “ஒருநெறிப் பட்டாங்கு” என்னுஞ் சூத்திரவுரையில் “கரும் நிகழ்ச்சி யென்பது காமப்புணர்ச்சி யென்னும் செயப்படுபொருள் நிகழ்ச்சி. அஃது இடமெனப்பட்டது. இது வினை செய்யிடம். நிலமாயின முன்னர்த் திணையெனப்பட்டன. காலம் முன்னர்ச் சொல்லுதும்” என எழுதியிருப்பது, சொல்லுதிகாரத்து ஏழாம் வேற்றுமை யிடப்பொருளுணர நின்ற “வினைசெய்யிடத்தின் நிலத்திற் காலத்தின், அனைவகைக்குறிப்பிற் றேன்றாமதுவே” என்னுஞ் சூத்திரப்பொருளை வினைவிற்கொண்டு பேராசிரியரால் எழுதப்பட்டதாகத் தெரிகிறது. ஆதலால் ஈண்டுக் கரும் நிகழ்ச்சி யென்பது ‘தட்டுப்புடைக்கண் வந்தான்’ ‘பொருதற்கண் மறைபெய்தது’ ‘சூதாடற் கட்டேக்கம் வந்தது’ என்புழிப்போலத் தொழிலே இடமாயிற்று எனக்கோடல் அவர் கருத்து என்னலாம். பிற ஆசிரியர் கருத்துக்கள் இவ்வுரையுடன்

ஒத்தும் ஒவ்வாதும் இருக்கலாம். அவை யீண்டு ஆராயத்தக்கனவல்ல.* ஆயினும் ஈச்சினார்க்கினியர் “களன் என்றது இயற்கைப் புணர்ச்சியும் இடந்தலைப்பாடும் முதலியன உணரச்செய்தல்” என்றே அம்முதற் சூத்திரவுரையிற் குறிப்பெழுதி, பின்னர்ச் சிறப்புச் சூத்திர உரையிலும் இக்கருத்தையே விளக்கியுள்ளார். இது நோக்கத்தக்கது. இதுகாறும் கூறியவாற்றால், முல்லை குறிஞ்சி முதலாயின, திணையென்னும் பிறதோருறுப்பினுள் அடங்குமென்பது பெறப்பட்டது. இனி, இரவுக்குறி முதலியன இயற்கைப் புணர்ச்சி முதலியவற்றின் பகுதியாயடங்குதலின் வேறு இடமென்பபடாவென்பதும், தன்மை முதலிய மூவிடங்களே இங்குக்கூறிய களனா மாயின்,

அவற்றுள்,

“மாத்திரை யளவும் எழுத்தியல் வகையும்
மேற்கிளர் தன்ன வென்மனார் புலவர்” (செய்யுளியல் சூ. 2)

“கைக்கிளை முதலா வெழுபெருந் திணையும்
முற்கிளர் தனவே முறைநெறி வகையின்” (, சூ. 184)

“எண்வகை யியல்நெறி பிழையா தாகி
முன்னுறக் கிளந்த முடிவின் ததுவே”

(மெய்ப்பாடு) (செய்யுளியல் சூ. 205)

என்றவிடங்களிற் போலச் சிறப்புச் சூத்திரத்து அவற்றைச் சுட்டியேனும், விதந் தெடுத்தேனும் ஆசிரியர் கூறியிருப்பார். அங்ஙனம் கூறாமையான் அவை களன் என்னும் உறுப்பாகாவென்பதும், அதுதான், இயற்கைப் புணர்ச்சி முதலிய கரும நிகழ்ச்சியை யுணரச்செய்த லென்பதும், மேல் வினைசெய்யிடமென்றதும் இக்கள னென்றதும் ஒன்றெனக்கோடல் பேராசிரியர் கருத்தென்பதும் பெறப்படும். ஆதலால், சிறப்பிலக்கணம் கூறிய சூத்திரத்துக்கும் அதன் உரைக்கும் மாறாகப் பேராசிரியரே ஈண்டு இவ்வாறு எழுதினாரென்பது கல்வி வல்லார் கருத்துன்றிப் பார்க்கத்தக்கதாகும்.

2. காலம். “காலவகையென்பது சிறுபொழுது பெரும்பொழுது என்னுங் காலப்பகுதி முதலாயின” என்பது முதற் சூத்திரத்தின்கீழ்ப் பேராசிரியரால் எழுதப் பட்ட குறிப்பாகும். (பக். 918).

பின்னர்,

“இறப்பே நிகழ்வே யெதிர தென்னும்

திறத்தியல் மருங்கிற் நெறிந்தன ருள்ளப்

பொருள்நிகழ்வுரைப்பது காலமாகும்”

(பக். 1268)

* திணை—“ஒழுகலாறு நிகழ்ந்த இடத்தினையும் திணையென்றார். அவை குறிஞ்சி பாலை முல்லை மருதம் நெய்தலென ஐந்து வகைப்படும். அவை அறியுமிடத்து முதல் கரு உரிப்பொருள்பற்றி அறியப்படும். (இறையனார் கள-சூ-56-உரை)

† இடம்—“ஒருவர் கூற ஒருவர் கேட்ட இடம். அவை தன்மை முன்னிலை பார்க்கை யென்பன.” (களவியல்-சூ-56-உரை)

என்னும் சிறப்பிலக்கணங் கூறும் சூத்திர உரையில் “மூன்று காலத்தினும் நிகழ்கின்ற நிகழ்ச்சி அச் செய்யுளுள் தோன்றச் செய்யிற் காலமென்னும் உறுப்பாம்” “பெரும் பொழுது சிறுபொழுது என்பன ஈண்டுத் திணையெனப்பட்டு அடங்கின. என்னை? முதலுங் கருவும் உரிப்பொருளுங் கூட்டித் திணையாகலின்” என்று அவரே யெழுதியிருக்கின்றார். இவ்விடத்தும், சிறப்புச் சூத்திரக் கருத்துக்கும் அதனைத் தழுவி யெழுதிய அவருரைக்கும் மாறான சூறிப்புக் காணப்படுவது பொருந்துமா என்பது ஆராய்தற் சூரியதாம். நச்சினூர்க்கினியர் “காலவகை யென்றப் முக்காலத்தும் திணைநிகழ்ச்சிக் கண்ணே பொருள் நிகழ்ச்சி யுணரக் கூறல்” என முதற் சூத்திர உரையிலும், “பெரும்பொழுதும் சிறுபொழுதும் முதல் கருஉரிப்பொருளொடுகூடித் திணையாகலின் இக்காலம் அவற்றின் வேறும்” எனச் சிறப்புச் சூத்திர உரையிலும் எழுதியிருத்தல் ஈண்டு நோக்கத்தக்கது.

3. திணையென்பதோர் உறுப்புத் தொல்காப்பியனார் கூறமைக்குக் காரணங் காட்டுமுகமாக நீண்டதோர் ஆராய்ச்சியுரை எழுதி வருமிடத்தில (பக். 922)

“இணைநூல் முடிபு தன்னூல் மேற்றே”

என்பதனும் காக்கை பாடினியார் ஓதிய திளையிலக்கணம் ஈண்டுங் கோடல்வேண்டுமெனின், அதுவே கருத்தாயின் அவர்க்கும் இவர் முடிவேபற்றித் திணைநூல் வேண்டும். அல்லதூஉம் அவர்க்கு இளையரான காக்கைபாடினியார் திணைகொண்டிலரென்பது இதனும் பெற்றும். திணைவேண்டினார் பிற்காலத்து ஓராசிரியரென்பது; என்னை?

“வடக்குந் தெற்குங் குணக்குங் குடக்கும்
வேங்கடங் குமரி தீம்புனற் பௌவமென்
றிந்நான் கெல்லை யகவியிற் கிடந்த
நூலதி னுண்மை வாஸிதின் விரிப்பின்”

எனக்கூறி, வடவேங்கடந் தென்குமரியெனப் பணம்பாரனார் கூறியவாற்றானே எல்லை கொண்டார் காக்கை பாடினியார், ஒழிந்த காக்கை பாடினியத்து,

“வடதிசை மருங்கின் வடுகுவரம் பாகத்
தென்றிசை யுள்ளிட் டெஞ்சிய மூன்றும்”

எனத் தென்றிசையுங் கடலெல்லையாகக் கூறப்பட்டதாகலான் அவர் குமரியாறுள்ள காலத்தாரல்லரென்பதூஉம், குறும்பனை நாடு அவர்க்கு நீக்கல் வேண்டுவதன்மென்பதூஉம் பெற்றும்; பெறவே, அவர் இவரோடு ஒரு சாலை மாணக்கரல்லரென்பது எல்லார்க்கும் உணரல் வேண்டுமென்பது” என்று பேராசிரியர் எழுதிடுள்ளார்.

இவற்றால் அறியப்படுவன, காக்கை பாடினியார் என்னும் பெயருடையார் இருவரிருந்தனரென்பதும், இருவரும் வேறு வேறு செய்யுளிலக்கணம் செய்துள்ளாரென்பதும், அவருள் ஒருவர் குமரியாறு கடல் கொள்ளப்படுமுன்பே தொல்காப்பியனாருடன் ஒருங்கிருந்து கல்வி பயின்றவரென்பதும், மற்றவர் கடல் கோட்குப்பின் இருந்தவ

ரென்று தெரிதலால் அவரோடு ஒரு சாலை மாணக்கரல்லரென்பதும் பிறவுமாம். இவருள் தனையுறுப்புவேண்டினார் யார் வேண்டாதார் யாரென்பது ஈண்டுத் தெளிதற் குரியது. காக்கை பாடினியார் தனையிலக்கணம் ஒதினாரென்றும்; இனையரான காக்கைபாடினியார் தனையுறுப்புக்கொண்டிலரென்றும், தனையேண்டினார் பிற்காலத்து ஓராசிரியரென்றும் உரையிற் காணப்படுகின்றன. தனையேண்டினார் பிற்காலத்து ஓராசிரியரென்பதற்கு, இவ்விருவருமல்லாத வேறோராசிரியரெனக்கொள்ளின், காக்கை பாடினியார் இருவரையும் வித்தெடுத்தக் கூறுதலும், காக்கை பாடினியார் தனையிலக்கணம் ஒதினாரென்றதும் பயனில் கூற்றாய் முடியும். அன்றி, இனையரான காக்கை பாடினியாரென்றதும் பிற்காலத்து ஓராசிரியரென்றதும் ஒருவரையே குறிப்பதாகக் கொண்டு, இனையரான பிற்காலத்துக் காக்கை பாடினியார் தனையேண்டினாரெனக் கொள்ளின், அவர் தனையுறுப்புக்கொண்டிலர் என்றமொழியிருப்பது பொருந்தாது. ஆகவே, எப்படியும் இவ்வுரையிற் சிறிது மாறுபாடுண்டென்பது தெரியலாம். பேராசிரியர் உரைப்போர்கிலிருந்து தெரிவன யாவையெனின், தொல்காப்பியர் காலத்துக் காக்கை பாடினியார் தனையைத் தனையுறுப்பாகக் கூறவில்லையென்பதும், பிற்காலத்துக் காக்கை பாடினியார் கூறினாரென்பதுமாம். இதற்கேற்ப அவ்வுரையில், “சிறுகாக்கை பாடினியார் ஒதிய தனையிலக்கணம் ஈண்டுக் கோடல்வேண்டுமெனின், அதுவே கருத்தாயின் அவர்க்கும் இவர் முடிவேபற்றித் தனையிலக்கணம். அல்லது உம் அவர்க்கு முன்னோரான காக்கைபாடினியார் தனையொண்டிலரென்பது இதனா (இன்னால் முடிபு தன்னால் மேற்றே என்றதனால் அல்லது சிறுகாக்கைபாடினியார் என்று கூறியதனால்) பெற்றும். தனையேண்டினார் பிற்காலத்து ஓராசிரியர் என்பது” என்பது போன்றதோர் உரைநடையிருப்பின், முன்னும் பின்னுமுள்ள உரைப்பகுதியுடன் மாறுபாடின்றிப் பொருந்தும். இதன்கண், தனையேண்டினார் பிற்காலத்தோராசிரியரென்பதற்கு, காக்கைபாடினியாரென்னும் பெயருடன் பிற்காலத்திருந்த ஓராசிரியர்; அவர் சிறுகாக்கை பாடினியார்; அவரே தனையேண்டினார் எனக்கொள்வது பொருத்தமாம். இராவ் பஹதூர் S. பவானந்தம் பிள்ளையவர்கள் வெளியிட்ட பழம் பதிப்பில் “காக்கைபாடினியார் ஒதிய தனையிலக்கணம் ஈண்டுக் கோடல்வேண்டுமெனின், அஃதே கருத்தாயின் இவர்க்கும் அவர் முடிவேபற்றித் தனையிலக்கணம் வேண்டும்” எனக் காணப்படுகின்றது. அதுவும் முன்பின் உள்ள உரைப்பகுதியுடன் இயையாதென்பதை நோக்கி யுணரலாம். “தொல்காப்பியரோடு ஒரு சாலை மாணக்கராகிய காக்கை பாடினியாரும் உறுப்பென்றார்; பின்தோன்றிய காக்கை பாடினியார் முதலியோர் கொள்வர்; அது பொருந்தாது” என்பர் நச்சினர்க்கினியர்.

இனி, யாப்பருங்கலவிருத்தியில் தனையுறுப்புக்கூறும் அதிகாரத்தில் “தன்சீரிறுதி லிரையொடு நேர்வரின்” என்னுஞ் சூத்திர உரையில், காக்கை பாடினியார் சிறுகாக்கை பாடினியார் என்னும் இருவர் சூத்திரங்களும் தனையிலக்கணம் கூறுவனவாக மேற்கோள் காட்டப்பட்டுள்ளவையெனின், அங்குக் காக்கை பாடினியார் பெயரால் எடுத்தாண்ட சூத்திரங்கள் அவரியற்றியனவல்ல என்பதே நம் பேராசிரியர் கருத்தெனக்கொள்ளுதல் வேண்டும்.

4. “அளபெடை யசைநிலையாகலும் உரித்தே” (பக். 959)

என்னும் சூத்திரவுரையில் ‘ஆஅழி’ யென்பது ஈரெழுத்துப் பாதிரியாம். ‘வடாஅ’ என ‘மூவெழுத்துப் புளிமாவாம்’ என்னுமிடத்தில் ‘ஆஅழி’ என்பது மூவெழுத்துப் பாதிரியாம் என்றிருக்கவேண்டும்.

5. “அடியின் சிறப்பே பாட்டெனப்படுமே” (பக். 996)

என்னும் சூத்திரத்தின்கீழ் “மாத்திரை முதலியவற்றை உறுப்புக்களால் இத்துணை மாத்திரை கொண்டது செய்யுளென்றானும் இத்துணை அசையுஞ் சீருந்தொடையுங் கொண்டது செய்யுளென்றானும் அளவியல்கூறிய உறுப்புக்களால் வரையறுக்கப்படா” என்றெழுதப்பட்டுள்ள உரைநடை வழவுடையதாகவுங் கூறியது கூறலாகவுங் காணப்படுகின்றது. இது, மாத்திரை முதலிய உறுப்புக்களால் இத்துணை மாத்திரை கொண்டது செய்யுளென்றானும் இத்துணை அசையுஞ் சீருந்தொடையுங் கொண்டது செய்யுளென்றானும் வரையறுக்கப்படா என்றிருப்பின் திருத்தமுடையதாகும்.

6. “எழுத்தள வெஞ்சினுஞ் சீர்நிலை தானே குன்றலு மிகுதலும் இல்லென மொழிப” (பக். 1003)

என்னும் சூத்திரத்திற்குப் பொருளெழுதுங்கால், “ஒரு சீர் இரண்டு முதல் பதினெட்டேறாகப் பல நிலைமைப்பட்டுப் பல சீராகிச் செய்யுளுள் வருமாற்றால் தத்தம் எழுத்துக் குறைந்தும் மிகுந்தும் அளவிறப்பினும்.....சுருங்கிற்றும் பெருகிற்றுமில்லை” என்றிவ்வாறெழுதப்பட்டுள்ளது.

ஒரு சீர் பல நிலைமைப்பட்டுப் பல சீராகி வருதலில் ஏனைய சீர்க்கூறியும் வஞ்சியுரிச்சீரேயின்று வரும். வஞ்சியுரிச்சீர் அறுபதில் இருநிலைமைப்படுஞ்சீர்கள் 24. நான்கு நிலைமைப்படுவன 28. எட்டு நிலைமைப்படுவன 8. ஆகவஞ்சியுரிச்சீர் இருபது இரூபத்துநான்கெனப்படும் என 1005, 6, 7-ஆம் பக்கங்களில் இவற்றிற்கு உதாரணவாய்பாடுகள் காட்டி விளக்கப்பட்டுள்ளன. இவற்றால் வஞ்சியுரிச்சீர்கள் இருநிலையும், நான்குநிலையும் எட்டுநிலையும் படுவன படுமன்றி இதற்குமேற்படுநிலைமையெய்துதலில்லையென்று தெரிதலால், முன்பு,

“ஒரு சீர் இரண்டு முதல் பதினெட்டேறாகப் பல நிலைமைப்பட்டுப் பல சீராகி என்றிருப்பது, ஒரு சீர் இரண்டு முதல் எட்டேறாகப் பல நிலைமைப்பட்டுப் பல சீராகி என்றிருக்கவேண்டும்.

7. இருநிலைமைப் படுஞ்சீர்கள் இருபத்து நான்கும் காட்டிய வரிசையில் ‘புலிவருவாய்’ (பக். 1005)

என ஒரு சீர் காணப்படுகிறது. இது வெண்பாவரிச்சீர் ஆகலானும், இருநிலைமைப்படுந் தன்மை இதற்கில்லையென முன்னரே (பக். 1004) விளக்கப்பட்டமைபானும் அவ்விடத்து ‘புலி வழங்குவாய்’ என்றிருப்பது பொருந்தும். அதுவே புலி வழங்குவாய், புலி விரவாய் என இருநிலைமைப்படுதற்கு ஏற்றதாகும்.

8. “மேற் சீர்தனை இருநிலைமைப் படுத்த அதிகாரத்தான்”

(பக். 1008)

என்றிருப்பதில், ‘சீர்தனை’ என்பது சீர்களை என்றிருக்கவேண்டும்.

9. “முதலும் முடிவும் பதின்மூன்றும் பதினேழுமாகி

ஈரெழுத்துப் பாதிரி ஐந்தடி யுறழ்தவாறு” (பக். 1023)

என்ற விடத்து, ‘ஈரெழுத்துப் பாதிரி’ என்றிருப்பது ஈரெழுத்து ஞாயிறு என்றிருப்பின் முன்னும் பின்னுமுள்ள கருத்துக்களோடு பொருந்துவதாகும்.

10. ‘களிறுபோருவாய்’ என்பது முதலாக,

‘களிறுசெல் கடறு’

(பக்.-1035)

என்பது ஈராகப் பதினைந்து வாய்பாடுகள் காட்டி, “இவை பதினைந்தும் எழெழுத்தாங்கால் உறழ் நிலையிலவெனப்படும்” என்றெழுதப்பட்டுள்ளது. இவற்றுள் ‘களிறு போருவாய்’ ‘மாவழங்கு சுரம்’ என்னும் இரண்டும் எழெழுத்தார் தன்மை எவ்வாற்றானும் ளாவாகலின், அவற்றை விலக்கி, பாம்பு வழங்குசுரம், புலி வருகடறு என்னும் இவையிரண்டனையும் ஏனையவற்றுடன் சேர்த்துக் கோடல்வேண்டும்.

11. “களிறு வழங்குகாடு, பாம்பு வழங்குகடறு,

களிறு போருகடறு”

(பக். 1036)

என இவை மூன்று சீரும் ஒரோவொன்று எழெழுத்துச் சீர் மூன்றும் எட்டெழுத்துச் சீர் ஒன்றுமாக முந்நான்கு பன்னிரண்டும் உறழ்நிலையில் எனப்படும்; அவை :

களிறு விரவுகாவு, களிறு வழங்குகாவு, அரவு விரவுகாடு, அரவு விரவுகாவு என எழெழுத்துச் சீர் மூன்றும் எட்டெழுத்துச் சீரொன்றும் ஆயினவாறு கண்டு கொள்க. ஒழிந்தனவும் அவ்வாறே கொள்க” என்று காணப்படுகின்றது.

இவற்றுள், களிறு வழங்குகாடு என்பது நிரைபுநிரைபு நேர்பு என்ற சீராகும். இச்சீரொன்றே எழெழுத்துச் சீர் மூன்றும் எட்டெழுத்துச் சீர் ஒன்றுமாக நான்கு நிலைமைப்பட்டதற்கு வாய்பாடுகளை விகற்பித்துக் காட்டி, ஏனைய இரண்டும் அவ்வாறே கொள்க என்பது பேராசிரியர் கருத்து. இங்குக் காட்டியவற்றில் அம்முறை பிறழ்ந்திருப்பதுமன்றி ஒன்பதெழுத்துச் சீரொன்றும் விரவியுள்ளது. இது, களிறு விரவுகாவு, அரவு வழங்குகாவு, அரவு விரவுகாடு, அரவு விரவுகாவு என இருப்பிற் பொருத்தமாம்.

12. “நேரீற் றியற்சீர் நிரையும் நிரையும்

சீரேற் றிறுஉம் இயற்கைய வென்ப”

(பக். 1057)

என்னும் சூத்திரத்தின்கீழ், “இது மேற்கூறப்பட்ட இயற்சீர் நான்கும் வருங்கால் இன்னுழிநின்று இன்னவாறு கொள்ளப்படும் என்பது உணர்த்துதல் றதலிற்று” என்றெழுதப்பட்டுள்ளது. வெண்பாவின் ஈற்றடியில் நேரிறுதியாகிய இயற்சீரின் பின்

நிரை, நிரைபு என்னும் அசையிரண்டும் சீராகவந்து நிற்கும் என்பதே இச்சூத்திரக் கருத்து. அடுத்த சூத்திரத்தில் நிரையீற்று இயற்சீரின் பின் நேர், நேர்பு என்னும் அசையிரண்டும் சீராகவரும் என்று கூறப்பட்டுள்ளது. ஆதலால், உரையில் 'இயற்சீர் நான்கும்' என்றிருப்பது அசைச்சீர் நான்கும் என இருத்தல்வேண்டும்.

13 “குறித்தபொருள்”

(பக். 1061-62)

என்ற மூலத்திற்கு ‘அவ்வடியில் தான்வைக்கக் கருதிய பொருளைப் பிறிதோரடியுங் கொண்டு கூட்டாது அமைந்து மாறச் செய்தல்’ என்று விசேடவுரை வரையப் பட்டுள்ளது. இவ்விசேடத்தினைக் கற்ப, “குறித்த பொருளை முடிய நாட்டல்” என்ற பதுவரை சூத்திரப்பகுதி அங்கு எடுத்துக் காட்டப்படவேண்டும்.

14. “அடிதொறுந் தலையெழுத் தொப்பது மோனை” (பக். 1077)

இச் சூத்திரத்திற்கு

“அடிதொறும் முதற்கண் ஓரெழுத்தேவரத்
தொடுப்பது மோனைத் தொடையாம்”

என்று பொருளும்,

“கண்டற் கான்ற குருகின மொலிப்பத்
திரைபா டவியத் திமில்தொழில் மறப்பக்
கரையா டலவன் அளவையிற் செறிய”

என்பது, அடிதொறும் முதலெழுத்தொன்றி மோனைத் தொடை வந்தவாறு” என்று உதாரணமும் விளக்கமுங் காணப்படுகின்றன.

இப்பாடற் பகுதி “மண்டில மழுங்க” என்று தொடங்கிப் பதினைந்து அடிகளால் முற்றுப்பெற்ற இருதூற்று அறுபதாம் அகப்பாட்டின் இடைப்பட்ட 3, 4, 5-ஆம் அடிகளாகும். அங்குத் ‘தகையாடலவன் அளவையிற் செறிய’ என்ற பாடமே யுள்ளது. எவ்வாற்றினும் இப்பகுதி அடிதொறும் தலையெழுத்தொன்றிவந்த மோனைத் தொடைக்கு எடுத்துக் காட்டாதல் பொருந்துமாறில்லை.

15. “வலியது கடியாறு காருருமு பாதிரி”

(பக். 1079)

என்றது, பதினான்கெழுத்தடிக்கு உதாரணமாகக் காட்டப்பட்டுள்ளது. குற்றுக்கர நீக்கி யெண்ணுங்கால் பதின் மூன்றெழுத்துக்களே இதன்கட் காணப்படுதலால் “வலியது காருருமு காருருமு பாதிரி” யென்றிருக்கவேண்டும்.

16. “இனி, களையப்படாதநிரை முதற் சீர்ஒன்பா

னுள்ளும் சுருங்கிய எழுத்துச் சீர்ஒன்பது” (பக். 1079)

என்றெழுதப்பட்டுள்ளது. இதில் சுருங்கிய எழுத்துச் சீர் ஏழு என்றிருக்கவேண்டும்.

(இன்னும் வரும்)

ஸ்ரீ

புறநானூற்றுத் தொகுப்பு முறை

வித்வான் - A. பூவராகம் பிள்ளை எழுதியது

புறநானூற்றுச் செய்யுட்கள் அகநானூறுபோல எண்ணுமுறையிலாதல், ஐங்குறு நூறு, கலித்தொகைபோலப் பொருள் பற்றியாதல், பதிற்றுப்பத்துப்போலப் பாடப் பட்டோர் பாடினோர் பற்றியாதல் ஒரு முறைப் படத்தொகுக்கப்பட்டில. ஆயினும் இச்செய்யுட்களைத் தொகுத்தவர் சில முறைகளைக்கொண்டு வரிசைப்படுத்தி யுள்ளார் என்பதும்பட்டும் புலனாகின்றது.

முதற் பாட்டுக் கடவுள் வாழ்த்து நீங்கலாக (1) 2 முதல் 86 வரை முடிகெழு வேந்தர் மூவரைப்பற்றிய பாடல்களாக உள்ளன. (2) 87 முதல் 181 வரை வள்ளல் எழுவரும் பிறருமாகிய குறுநில மன்னர்களைப் பற்றிய பாக்களாக உள்ளன. (3) 182 முதல் 195 வரை ஒருவரை நோக்கி ஒருவர் பாடியனவாக இன்றிப் பொதுவாகப் பாடப்பட்ட சில நீதிச் செய்யுட்களாக உள்ளன. (4) 196 முதல் 211 வரை பரிசில் நீட்டித்தல் முதலிய குறைபாடுகள் பற்றிய செய்யுட்கள் சேர்க்கப்பட்டுள்ளன. (5) 212 முதல் 256 வரை இறந்தோரை நோக்கி அவர் உறவினரும் புலவரும் இரங்கியுரைத்தல் முதலிய இரங்கற்பாக்கள் உள்ளன. (6) 257 முதல் 335 வரை முடியுடை வேந்தரும் குறுநில மன்னருமன்றித் தனிப்பட்ட சில வீரர்களின் சிறப்பும், சூதிரைமறம் முதலியனவும் பற்றிய பாக்கள் தொகுக்கப்பட்டுள்ளன. (7) 336 முதல் 354 வரை மகட்பாற் காஞ்சி என்னும் துறைபற்றிய செய்யுட்கள் தொகுக்கப் பட்டுள்ளன. (8) 355, 356 காடுவாழ்த்தாகத் தோன்றுகின்றன. (9) 357 முதல் 400 வரை உள்ளபாக்கள் ஒரு நெறிப்படாமல் விரவியுள்ளன.

(1) 2 முதல் 16 வரையில் உள்ள 15 பாடல்கள் சேரன், பாண்டியன், சோழன் என்ற வரிசையில் ஒவ்வொருவரைப்பற்றி ஒவ்வொன்றாக ஐந்து முறை அடுத்தடுத்து வைத்துள்ளனர். இதனால் இதனைத் தொகுத்தவர் மூவேந்தரையும் ஒப்பமதிக்கும் நடுநிலையுடையர் என்பது தெளிவாகும். சேரன், பாண்டியன், சோழன் என்ற வரிசை

“ போந்தை வேம்பே ஆரென வருஉம்

மாபெருந்தானையர் மலைந்தபூவும் ”

என்ற தொல்காப்பியச் சூத்திரத்தினின்றும் மேற்கொண்டனராவர். இப்புறநானூறு 338-ம் பாடலில்

“ வேம்பும் ஆரும் போந்தையுமன்றும்

மலைந்த சென்னியர் அணிந்த வில்லர் ”

எனப் பாண்டியன், சோழன், சேரன் என்று முறை கூறப்பட்டிருப்பினும், தொன்னூலாகவும் இலக்கணமாகவும் உள்ள தொல்காப்பிய முறையையே மேற்கொண்டன ரெனக்கொள்க. மேல் 80 முதல் 86 வரையுள்ள ஏழுபாடல்கள் சோழன் போர்வைக்

கோப் பெருநம் கிள்ளியைப் பற்றியனவாக உள்ளன. மற்று 17 முதல் 79 வரை உள்ள 63 பாடல் ஒரு நெறிப்படாமல் விரவியுள்ளன. இவற்றுள் 71 முதல் 75 வரை உள்ள 5 பாடல்கள் அரசர் பாடியனவாக இருத்தல் கருத்தக்கதாகும்.

(2) 87 முதல் 153 வரை வள்ளல் எழுவரைப் பற்றிய பாடல்களாகும். இவ் வெழுவரையும் 158-ம் பாடலில் பெருஞ்சித்திரனார் கூறியபடி வேள்பாரி, வல்வில் ஓரி, மலையமான் திருமுடிக்காரி, அதிகமானெடுமானஞ்சி, வையாவிக் கோப்பெரும் பேகன், வேள் ஆய், கண்டிரக் கோப் பெருநள்ளி என்ற முறையிலாதல், சிறுபாணாற்றுப் படையிற் கூறியபடி பேகன், பாரி, காரி, ஆய், அதிகமான், நள்ளி, ஓரி என்ற முறையிலாதல் வரிசைப்படுத்தாமல் புந்நூற் றெழுப்பாசிரியர் வேறொரு முறையில் அதிகமான், பாரி, காரி, ஆய், பேகன், நள்ளி, ஓரி என்று வரிசைப்படுத்தியுள்ளனர்.

அதிகமான், தான் அரிதின் முயன்று பெற்றதும் உண்டவர் நெடுங்காலம் உயிர் வாழ்தற் குரியதுமாகிய அரிய நெல்லிக்கனியை ஒளவையாருக்கீந்து, புலவரைத் தன்னுயிரினும் மேலாகப் போற்றிய சிறப்புப் பற்றியும், பனந்தாருடையனாய்ச் சேரமான் தொடர்புடையனாய் இருத்தல் பற்றியும் அவனை முதற்கண் வைத்தனர். பாரி, ஓரறிவுயிராகிய டொடி கொடிகளிடத்தும் பேரருளுடையவனாய் முல்லைக்குத் தேர் கொடுத்தமையாலும், தன் நாட்டகத்துள்ள முந்நூறாரும் பரிசிலர்க்கீந்த பெருந் கொடையுடைமையாலும் அவனை இரண்டாமவனாக வைத்தனர். காரிபெருந் கொடையோடு மூவேந்தரும் இவன் தத்தமக்கே போர்த்துணையாதல் வேண்டுமென்று விரும்பத் தக்கவனாய், இவனைத் துணையாகக்கொண்டு வென்ற வேந்தனும், இவனைத் துணைக்கொள்ளாது தோற்றோனும் ஒருங்குபுகழும் வீரப் பெருமையுடைமையால் காரியை மூன்றாம் எண்ணில் வைத்தனர்.

“குன்றத் தன்ன களிறு பெயரக்
கடந்தட்டு வென்றோனும் நிற்குறும்மே
வெலீஇயோனிவனெனக்
கழலணிப் பொலிந்த சேவடி நிலங்கவர்பு
விரைந்து வந்து சமரந்தாங்கிய
வல்வேல் மலையனல்லனாயின்
நல்லமர் கடத்தல் எளிதுமன் நமக்கெனத்
தோற்றோன்றானு நிற்குறும்மே
தொலைஇயோனிவனென ”

(புறம். 125)

எனக்காரியின் வீரச்சிறப்புக் கூறப்படுதல் காண்க. நீலநாகம் நல்கியகலிங்கம் ஆலமர் கடவுட் கன்புடனீத்த பெருமைபற்றி ஆயை நான்காம் எண்ணில் வைத்தனர். பேகன் மயிலுக்குப் போர்வையீந்த பேரருளும் பெருங்கொடையு முடையனாதலின் முல்லைக்குத் தேரீந்த பாரியை அடுத்து வைத்தற் குரியனாயினும், தன் மனைவியை நீத்துப் பிறனொருத்தியை நயந்த சிறுமறு அவன் பாலுண்மை நோக்கி அவனை ஐந்தாம் எண்ணில் வைத்தனராவர். ஏனைநள்ளியையும் ஓரியையும் சிறு பாணாற்றுப்

படையிற் கூறியாங்கு இறுதியில் வைத்தனர். இவர் கொண்ட வரிசைக்கு இங்ஙனம் காரணம் கொள்ளுதல் பொருத்தமாகும். இன்றேல் புறநானூறு, சிறுபாணாற்றுப்படை இரண்டு நூல்களையும் பின்பற்றாது வேறு முறை கொண்டதற்கு வேறு காரணம் ஏதாவது இருத்தல் இன்றியமையாததாகும்.

87 முதல் 104 வரை உள்ள செய்யுட்கள் அதிகமான் நெடுமானஞ்சியைப் பற்றியனவாகும். இவற்றுள் 96, 102 இரண்டும் அவன் மகளைப் பற்றியனவாயினும் அவன் பாடல்களோடு ஒருங்கு சேர்க்கப்பட்டமை பொருத்தமேயாகும். 96-ம் பாடலில் அதிகமான் மகன் பொருட்டெழினி பகைவரஞ்சுத்தக்க வீரச்சிறப்பும் மகளிர் மனங்க வரும் எழில் நலமும் பொருந்திய காளைப்பருவ முடையவனாகக் கூறப்பட்டுள்ளான். 100-ம் பாடலில் அவன் பிறந்தபோது அதிகமான் அவனைக்கண்ட நிலைமை கூறப்பட்டுள்ளது. ஆகலின் இப்பாடல்கள் முன்பின் மாறியிருத்தல் பொருத்தமாகும்.

105 முதல் 120 வரை உள்ள செய்யுட்கள் வேள்பாரியைப் பற்றியனவாகும். இவற்றுள் 109, 110 இரண்டும் மூவேந்தரை நோக்கிக் கூறப்பட்டனவெனினும் பாரியின் சிறப்பே விளக்கினவாதலின் அவைகளும் அவன் பாடல்களோடு சேர்க்கப்பட்டன.

121 முதல் 126 வரை உள்ள செய்யுட்கள் மலையமான் திருமுடிக்காரியைப் பற்றியனவாகும். 125-வது பாடலின்கீழ்த்தேர்வண் மலையன் என்று குறிப்புக் காணப்படினும் அதுவும் மலையமான் திருமுடிக்காரியைப் பற்றியதேயாகும். 123-ம் பாடலில் அவன் தேர் வண்மையும், மலையன் என்னும் பெயரும் கூறப்படுதல் காண்க.

127 முதல் 136 வரை உள்ள பாடல்கள் வேள் ஆயைப் பற்றியனவாகும். இப்புற நானூற்றில் ஆயைப் பற்றியனவாக ஈண்டுப் பத்துப் பாடல்களும் 240, 241, 374, 375-ம் ஆகப் பதினான்கு பாடல்கள் உள்ளன. இவற்றைப் பாடிய புலவர் மூவர். இவன் நீல நாகம் நல்கியகலிங்கம் ஆலமர் கடவுட்கு அன்புடன் கொடுத்த வரலாறு ஒரு பாடலிலேனும் காணப்படவில்லை. (குமணனைப் பாடிய பெருஞ்சித்திரனாரும் “திருந்து மொழி, மோசிபாடிய ஆயும்” என்றே ஆயைக் குறிப்பிட்டனர்). சிறு பாணாற்றுப் படையிற் காணப்படும் செய்தி புறநானூற்றிற் காணப்படாமை வியப்பாக உள்ளது.

141 முதல் 147 வரை உள்ள பாக்கள் வையாவிக்க கோப்பெரும் பேகனைப் பற்றியனவாகும். 148 முதல் 151 வரை உள்ளவை கண்டிரக் கோப் பெருநள்ளியையும் 152, 153 ஆகிய இருபாடல்களும் வல்வில் ஓரியையும் பற்றியனவாகும்.

137 முதல் 140 வரை உள்ள பாக்கள் நாஞ்சில்வள்ளுவனைப் பற்றியனவாகும். இங்ஙனம் வள்ளல் எழுவரையும் பற்றித் தொடர்பாக வருமிடத்து இடையே நாஞ்சில் வள்ளுவனைப் பற்றிய பாடல்கள் வந்திருத்தலின் இவை இடம் பிறழ்ந்திருத்தல் கூடும் என்றெண்ணுகின்றேன்.

154 முதல் 181 வரையுள்ளபாக்கள் கொண்கானம் கிழான், ஏறைக்கோன், குமணன் முதலிய குறு நிலமன்னரைப் பற்றியனவாகும். இவற்றுள் 166-ம் பாடலிற்

கூறப்படும் பூஞ்சாற்றூர்க் கௌணியன் விண்ணந்தாயன் குறுநிலமன்னன் அல்லா விடினும் அத்தகையோனாகக் கருதி அப்பாடலை இத்தொகுதியிற் சேர்த்தனர் போலும்.

(3) 182 முதல் 195 வரை ஒருவர் ஒருவரைப்பற்றிப் புகழ்ந்துரைத்தல், ஒருவர்க்கு அறிவுறுத்துதல் என்றிங்ஙனமில்லாமல், பொதுவாக உலகை நோக்கி ஒவ்வொரு நீதியைக் கூறி வற்புறுத்துவனவாகவுள்ள பாக்களாகத் தொகுக்கப்பட்டுள்ளன.

(4) 196 முதல் 211 வரை, பரிசில் நீட்டித்தல், சிறிது கொடுத்தல், புலவரைக் கண்டு போற்றிக் கொடாமல் மீற வாயிலாகக் கொடுத்தல் முதலிய குற்றங்கண்டு அப் பரிசில்களை ஏற்றுக்கொள்ளாமல் புலவர் மறுத்துரைத்த பாக்கள் தொகுக்கப்பட்டுள்ளன. இவற்றுள் 200 முதல் 202 வரையுள்ள பாடல்கள், பாரிமகளிரை மணந்து கொள்ளும்படி விச்சிக்கோனையும் இருங்கோவேனையும் கபிலர்வேண்டியுரைத்தவை யாயினும், அவர் விரும்பிய குறை முடிக்கப்படாமையின் அவை தலைவர்களின் குறை பற்றிய பாடல் வரிசையில் சேர்க்கப்பட்டனவாகும்.

5. 212 முதல் 256 வரை முடிசெழுமன்னரும் குறுநிலமன்னருமாகிய இறந்தோரைப்பற்றி வருந்துவோர் கூறிய இரங்கற்பாக்கள் தொகுக்கப்பட்டுள்ளன. இவற்றுள் துறவு மேற்கொண்டு தவமுயல்வோர், வடக்கிருப்போர் முதலியவர்களைப் பற்றிய பாடல்களுமுள்ளன. இவர்கள் உலக வாழ்வை வெறுத்து அந்நிலைகளை மேற்கொண்டனராதலின் இவர்களைப்பற்றிய பாடல்களும் ஈண்டுச் சேர்க்கப்பட்டன. 212, 213-ம் பாடல்கள் கோப்பெருஞ் சோழன் வடக்கிருத்தற்குமுன் கூறப்பட்டனவாயினும் பின்னுள்ள பாடல்களின் தொடர்பு நோக்கி ஈண்டுச் சேர்க்கப்பட்டனவாகும்.

(6) 257 முதல் 335 வரை முடியுடை மன்னரும் குறுநில மன்னருமன்றித் தனிப்பட்ட சில வீரர்களின் வீரம், கொடை, மறக்குடிச் சிறப்பு, தானைமறம், குதிரை மறம் பார்ப்பனவாகை என்றின்றோரன்ன பொருள்பற்றிய செய்யுட்களாகத் தொகுக்கப்பட்டுள்ளன. இவை தனிப்பட்ட சில வீரர்களைக் குறித்தன என கிளைத்தற்குரிய குறிப்புக்கள் பல செய்யுட்களிற் காணப்படுதலின் இத் தொகுதி முழுதும் அங்ஙனம் உள்ளவையே எனக் கோடல் பொருத்தமாகும்.

தொல்-புறத்திணை - “வெறியறி சிறப்பின்” என்ற சூத்திரத்தில் “ஆரமரோட்டல்” என்ற பகுதிக்குக் ‘குறுநிலமன்னரும் காட்டகத்துவாழ் மறவரும் போர்த் தொழில் வேந்தரைப் பொருது புறங்காண்டலும்’ எனப் பொருள்கூறிப் “பொன் வாரந்தன்ன புரியடங்கு நரம்பின்” என்ற (புறம், 308) செய்யுள் குறுநிலமன்னனைக் குறித்ததாக நச்சினாக்கினியர் காட்டியுள்ளனர். அப் பாடலில் ‘சீறார் மன்னன்’ எனக் கூறப்பட்டிருத்தலின் அப்பாட்டுடைத் தலைவன் குறுநிலமன்னன் என அவர் கருதினர்போலும்.

இப் பகுதியில் “சீறார் மன்னன்” என்றும், ஒருருக்குத் தலைவன் என்றும் சிலர் கூறப்பட்டுள்ளனரெனினும் இவர்கள்முன் அதிகமான் நெடுமானஞ்சி முதலாகக் கூறப்பட்ட குறுநிலமன்னர்போன்மவராகக் கொள்ளுதல் பொருந்தாது. இவர்கள் ஒவ்வொருருக்குத் தலைவர்களாகக் கூறப்படுதலானும், இப்பகுதியிலுள்ள பாடல்களில் (266,

315 இரண்டும் நீங்கலாக) ஒன்றிலேனும் பாட்டுடைத் தலைவர் பெயர் கூறப்படாமை யானும், தனிப்பட்ட வீரர்களின் சிறப்பு, யானை, குதிரை, மறக்குடி இவற்றின் சிறப்பு முதலிய பல்பொருட் பாடல்களும் இப்பகுதியில் விரவியிருத்தலானும், இப்பகுதியில் ஒருக்குத் தலைவராகக் கூறப்பட்டவர் குறுநிலமன்னர் தரத்தினரன்றி, அரசர்க்கு வேண்டியுடத்து உதவிபுரியும் சில வீரர்களாகக் கொள்ளுதலே பொருத்தமாகும்.

இப்பகுதியில் 266, 315 ஆகிய இரு பாடல்களும் உருவப்படுமேர் இளஞ்சேட் சென்னியையும், அதிகமானெடுமானஞ்சியையும் குறித்தனவாக விருத்தலின், இவ்விரு பாடல்களும் எக்காரணத்தாலோ வேறிடத்திருந்து மாறி இப்பகுதியிற் சேர்ந்தனவெனக் கருதுகின்றேன்.

பலதுறைப் பாக்கள் கலந்துள்ள இப்பகுதியில் 313 முதல் 325 வரை வல்லாண் முல்லை என்ற ஒரு பொருள்பற்றியனவாகவும், 326 முதல் 335 வரை மூதின்முல்லை என்ற ஒரு பொருள் பற்றியனவாகவும் தொகுக்கப்பட்டுள்ளன.

(7) 336 முதல் 354 வரை அரசர் மறக்குடியினர் பெண்ணை மணக்க விரும்ப, அம்மறக் குடியினர் பெண்தர மறுக்க, அதனாற் போர் நிகழ்தலைக் குறித்த “மகட்பாற் காஞ்சி” என்னுந் துறைபற்றிய செய்யுட்களாகத் தொகுக்கப்பட்டுள்ளன. இப்பகுதியிலுள்ள பாக்களெல்லாம் பாடப்பட்டோர் பெயரிலவாகவும், கீழ்க்குறிப்பெழுதினோரும், பாடப்பட்டோர் பெயர் கூறாது சென்றிருக்கவும், 344, 345 ஆகிய இருபாக்களின் கீழ்மட்டும் பாடப்பட்டோர் பெயர் உள்ளனபோற் கீழ்க் குறிப்புக் காணப்படுதல் பொருத்தமாகவில்லை. அன்றியும் 344-ஆம் செய்யுளிற் பாடப்பட்டோர் பெயர் காணப்பட்டிலது; 345-ஆம் செய்யுளில்

“வந்தோர் பலரே வம்ப வேந்தர்”

“அளியர் தாமே யிவள் தன்னைமாரே”

எனப் பன்மைச் சொற்களே கூறப்பட்டுள்ளன; கீழ்க்குறிப்பில் “அவனை அவர்” (அவனை அவர் பாடியது) என ஒருமைச்சொற் காணப்படுவது பொருந்தாமை கான்க. இப்பகுதிச் செய்யுட்கள் பெண்கொள வந்தோர் பெண்தர மறுப்போர் ஆகிய இருதிறத் தாரையும்பற்றி நிறுவின், ஒருவர் பாட்டுடைத் தலைவராகக் குறித்தற்கியலாமையினால் கீழ்க்குறிப்பெழுதினோர் பெயர் கூறாதொழிந்தனர்போலும். இவற்றுள் பரணர் பாடியனவாக ஆறு செய்யுட்களிருந்தும் அவை ஒருங்கே இல்லாமல் விரவியுள்ளன.

(8) 355, 356 ஆகிய இருசெய்யுட்களும் “காடுவாழ்த்து” என்னும் துறையுடையனவாக விருக்கின்றன. 356-ஆம் செய்யுள் தொல்காப்பிய உரையில் காடுவாழ்த்தென்னுந் துறைக்கு மேற்கோளாகக் காட்டப்பட்டுள்ளது. அச்செய்யுளின்கீழ் “தினையும் துறையும் அவை” எனக் கூறப்பட்டிருத்தலின், சிதைந்துள்ள 355-ஆம் செய்யுளும் அத்துறைப்பொருளதெனக் கோடற்குரியதேயாம்.

(9) 357 முதல் 400 வரை ஒரு நெறிப்படாமல் முடியுடை வேந்தரையும் குறுநில மன்னரையும் பற்றியனவும், தனியே நீதிகளை யுணர்த்துவனவுமாகப் பலதிறப்பட்ட செய்யுட்கள் விரவியுள்ளன.

Reviews

Report on the marketing of Rice in India and Burma: Pages 626.

Price : Re. 1-4-0.

A handy authoritative reference book on the marketing of rice in India and Burma has been a long felt need. The monograph of the Agricultural Marketing Adviser fulfils this need. Almost every aspect of the problem of marketing of rice has been considered in this volume. Each chapter contains a wealth of details and recommendations which will be very useful to the student, the trader in rice, the reformer and the politician.

The first chapter dealing with the supply side of rice gives an interesting history of paddy culture and a clear analysis of the different seasons for sowing, harvesting and marketing in various provinces of India and Burma. It also gives a valuable account of the different varieties of rice grown in the country, and of their three-fold classifications into (a) fine, medium or bold (coarse), (b) raw or par boiled (c) milled or hand-pounded rice. This chapter lays stress on the inadequacy of our rice supply to feed our growing population and on our regrettable dependence on foreign imports of rice.

The second chapter on "Utilisation and Demand" gives an evaluation of paddy and rice utilised for different purposes such as sowing, stock-feeding, manufacturing into products (e.g., murmura, keel; chura), for industrial uses, for export and by far the most important of all, for domestic consumption. The section on "Demand" deals with the variations in the *per capita* consumption of rice in different provinces and in the demand for various varieties of rice according to the economic status of the consumers, their age-long prejudices and "their religious susceptibilities."

The third chapter under the caption "Wholesale Prices" begins by stating that Indian prices are entirely uninfluenced by world price trends and that even within the country there is no such thing as an average price of rice due to "the existence of an enormous number of varieties, the complexities of consumers' preferences, the localisation of production types, the localised nature of demand and the non-existence

of any representative type or standards of quality." It also points out the woeful lack of organisation in the sales of paddy when compared with that of the relatively organised market for rice. The prices of rice are influenced by the main quality factors such as "(a) conformation (fine, medium and bold), (b) raw or parboiled (c) machine milled or hand-pounded (d) variation in grade or quality, (e) age or maturity (f) artificially applied." After enumerating the methods advised by the government for the speedy dissemination of market news for the agriculturist through the radio and the press, the chapter contains a resume of the working of the Agricultural Produce (Grading and Marking) Act and of the pushing into wider use the AGMARK grades.

In Burma there is not much disparity between the paddy prices and rice prices except for some premiums paid for old crops and for "boat" paddy coming from riverain tracts. The advantages which Burma market has over the Indian market are in the limited number of grain varieties placed in the market which conform to recognised trade standards and in the comparative efficiency of the market organisation. The only disruptive tendency in Burma is the dealing in "futures" which instead of levelling seasonal fluctuations in prices aggravates them.

The succeeding three chapters deal in great detail with the preparation of rice for the market, assembling and classification, grading and standardisation. Unlike other staples like wheat, barley and gram, paddy is not ready for consumption after the process of reaping, threshing and winnowing but it has to go through the process of de-husking either raw or after parboiling. But paddy does not travel straightway from the grower to the consumer, it passes through a long array of middlemen who collect the paddy from the grower, bring it to the assembling centre and then distribute it through middlemen to the ultimate consumers. In this process of assembling the produce and distributing it, as the chapter points out, there are involved much wastage of effort, unnecessary payments and the heavy economic loss resulting from the profiteering of a vast number of middlemen by which the actual price got by the grower for his produce is greatly depressed. Classification and grading are absent in India due to the innumerable varieties of rice grown. So the trade in rice is carried on only through a visual examination of samples of paddy and the rice contents of samples. This rough method is highly unsatisfactory and even individual attempts at standardising products through the use of trade marks will not infuse confidence in trade transactions. So the chapter lays it conclusively that full

use should be made of the Agricultural Produce (Grading and Marking) Act, 1937, and the produce should be graded according to the specifications of the Act. Already the reception of AGMARK rice in the foreign markets is very encouraging. Hence it is high time that more of the rice producers should conform to the AGMARK rules.

With Burma the problem is entirely different, her rice (un-husked paddy) being well graded by a volumetric process. But the Burmese system is not fool-proof as attempts are usually made by dishonest buyers to use measuring baskets of varying volume on the pretext that the paddy does not conform to the standard specifications. The grading of rice (husked) is according to a "volume-cum-weight system," through a rough device and this method gives some protection to both parties.

The next four chapters on "Conservation," "Handling and Transportation," "Wholesale Distribution" and "Manufacturing and Distribution of Rice Products" apart from dealing with the respective topics exhaustively, offer some valuable recommendations. For the bulk-storage of paddy it is recommended that growers in particular areas should co-operate for starting central storage and marketing societies and thus gain an extra-profit by selling stored grains at the end of the seasonal glut. The greatest single addition to the marketing charge of rice comes under the head "freights" and any reduction of transport charges will not only expand the market for the grower in different regions but will confer a real benefit to the consumer. The operation of the "flat rate principle of rates" and "the telescopic scale of rates" in the railways have not in any way substantially reduced the handicaps for the marketing of rice. A planned and drastic reduction of rates can alone minimise the handicaps. In the distributive trade of rice there exists a host of intermediaries between the grower and the consumer whose profits consume a good portion of the money that ought to go to the cultivators. The chapter does well in pleading for "a proper system of marketing and for a more direct participation in the marketing process by the grower himself."

In India about 5·7 per cent of the total crop production (2·41 million tons) is utilised for seed. Such a large utilisation of grains for seeds is due to faulty seed selection and faulty methods of cultivation. The eleventh chapter draws our attention to the immense good that can come about by the Agricultural Departments popularising the use of seeds of improved high yielding strains. The unnecessarily large number of varieties of grains grown in India may be given up in order to faci-

litate standardisation and the specification of quality by which easy, reliable, commercial transactions may be made feasible. The absurd multiplicity of weights and measures current in the country leads to a good deal of foul play much to the detriment of the agriculturists and it gives rise to a sense of insecurity in commercial transactions. The recommendations made in chapter twelve favour the strict enforcement of the Standard of weight Act, 1939, in the provinces and the adoption of the Imperial gallon as the standard of dry measure at least in wholesale transactions.

Wherever possible explanatory diagrams and photographs are given. The appendices supply statistical data and information about the marketing acts in the country and practices obtaining elsewhere. The volume is a welcome addition to the long list of publications which the Agricultural Marketing Department has to its credit.

B. V. NARAYANASWAMY.

Report on the marketing of Groundnut in India and Burma: pages 446.
Price Rs. 1-4-0.

Among the groundnut producing countries of the world India comes first both as to the area under groundnut cultivation and as to the quantity produced. The average acreage and production during 1933 to 1937 were 7 million acres (36% of the world acreage) and 2.82 million tons (34 per cent of the world production). About 40 per cent of the total production enter into international trade, the chief customers in the order of importance in the pre-war days being France, the Netherlands, the United Kingdom, Germany and Italy. India ranks first in the export of groundnut kernels and the average value of exports during 1933-34 to 1937-38 was 11 crores of rupees. Hence the importance of the study on marketing of this cash crop.

The first chapter contains a description of the chief varieties of groundnuts grown in India, the sowing, harvesting and marketing seasons of the crop and the outlets for the surplus kernels and oil cake. According to the second chapter, groundnuts are put to three different uses (for seeds, for edible purposes and, most important of all, for extracting oil). The demand for groundnut oil is an example of composite demand. So the actual quantity of the produce demanded is necessarily regulated by the relative prices of vegetable oils, animal fats and margarine and also by the size of the Indian crop. Peanuts and Coroman-

del varieties of the groundnuts grown in India are ideal for the extraction of oil, though bolder varieties good for edible purposes are also used for crushing into oil. Burma has little exportable surplus of groundnuts, the whole of its production being used to meet her internal demand; and occasionally she imports from India. In the chapter on 'Prices' we find that the Indian producer is unable to reap the full benefit of the higher prices paid for his produce in the international trade due to the intervention of a host of intermediaries and the want of adequate marketing intelligence. Apart from these the essentials for better marketing are conspicuous by their absence. "Standard weights and measures, a uniform system of price quotation and standard terms of contracts regarding impurities, moisture, allowances etc., and a system of collection and dissemination of reliable price news are steps towards making prices better known to producers and securing them a better return for their produce." So far this ideal has not been attained and in the future every effort should be made to implement these measures which will augment the income of the producer. Besides these the establishment of the organised trading in 'futures' in the chief ports exporting groundnuts will smooth out price fluctuations and give further security to the primary producers.

The chapter on the 'Preparation for Market' convinces us that a little more care given to the harvesting of the crop at the right-time will help to reduce the contents of fatty acids in the groundnuts and it will also help to fetch a higher price for the crop. The decortication of groundnuts by machines instead of by the hand with the help of mallets and sticks ensures a higher percentage of unbroken kernels—a factor which directly influences the price paid for the produce. In the chapter on 'Assembling' we come across all the shortcomings familiar to the Indian market in agricultural produce e.g. the host of intermediaries, the subjection of debtor-cultivator to the price fixed by the creditor arhatya, the unjust deductions for the impurities in the produce offered for sale even though the produce is not impure, the use of inaccurate weights for buying, the bargaining under cover and the payments for charity and deity which in reality go secretly to the pocket of the buyers. Regulated markets and co-operative credit and sale societies, according to the Report, will mitigate these evils, though the experience of the application of the Madras Commercial Crops Act 1933 is not very encouraging. The distributive trade is mainly in the hands of decorticating factories, wholesale merchants and exporting firms. They collect the produce directly from the producer through agents or through village

merchants and distribute it for export purposes and for crushing into oil. The internal consumption of groundnuts is fast increasing, yet no organised trade bodies have yet been evolved to look after the interests either of the primary producers or of the sellers at the crushing centres.

The Report further deals with the 'grading and standardisation' of groundnuts. The free fatty acid contents in groundnuts places the Indian produce at a discount. The Report shows that the fatty acids can be appreciably reduced by improved decortication, reduction of moisture, harvesting the crop when it is fully ripe and better storage. Freeing the kernels from impurities such as shells, nooks and broken kernels and castor seeds will also ensure better prices. It points out the difference between the "Incorporated Oil Seed Association Contract" and the Marseilles Contract. The latter encourages the presence of impurities in the produce and gives rise to much wastage in transit charges etc. If the grading of groundnuts is done according to the Agricultural Produce (Grading and Marking) Act 1939, we can look forward to a bright future for the Indian producer of groundnuts. But the success of any such attempt will depend on the enthusiasm of the Marketing Staff and the publicity they give to the cause. Storage of groundnuts has never been a great problem because storage for more than a year results in the deterioration of the kernels, and storage is very risky on account of the wide price fluctuations which prevail in the trade.

The railway rates for groundnuts are higher than those for other oil-seeds, and the Report pleads for a revision of rates. As a consequence of the policy pursued by railways, the transport of groundnuts by motor trucks received an impetus, because motor transport is not only cheaper than railway transport but also dispenses with the cold formalities and miscellaneous charges of railway transport. If the railway is to hold its own position and be of substantial benefit to the producers the rates for the transport of groundnut should be the same as those for other oilseeds and there should be no discrimination shown against groundnuts.

It is mentioned that the export of groundnut oil to the foreign markets has got a great future. The groundnut oil can be transported easily in barrels and can be standardised with greater ease. The Government must facilitate such progress by starting grading centres for oils and kernels. Our internal market is capable of vast improvement by making Vanaspati popular and by using groundnut oil for producing lubricants. But the present use of groundnut oil for adulterating til

oil and sesamum oil should be checked. The Report also warns us against looking with disfavour the crushing of groundnuts by 'chekkus' because the oil produced by this process has a premium over oil produced by mills. Besides the crushing of groundnuts by chekkus provides employment for a vast number of telis; and as the crushing is generally done near the producing centres, it saves the unnecessary transport charges involved in transporting the nuts to the mills and then distributing the oil and cake to the producers themselves. There is also much scope for the expansion of the use of groundnut cakes for feeding cattle and for manuring. Here again, heavy transport charges and the prejudices of consumers stand in the way.

The Report advances a case for a regional planning, for growing different varieties of groundnuts according to the characteristics of different soils, climatic conditions and the purpose for which the crops are intended. The distribution of better varieties of seed and the dissemination of the knowledge of scientific groundnut cultivation will go a long way in increasing the yield per acre.

The curse of marketing in India is the diversity of weights and measures used. The sooner the Standard of Weights Act, 1939, is brought into force the better. As a good proportion of groundnut is sold by volume, standardising dry measures is also a very urgent need. The Imperial gallon is now used for measuring kercsene oil and its use as the basis of a provincial dry measure will be a welcome change.

The statistical data, the graphs and plates in the Report help to give a clear understanding of the problems concerning the marketing of groundnuts. We feel, however, that, instead of giving at the end of each chapter the conditions obtaining in Burma, a separate section could have been included dealing exclusively with the production and marketing of groundnuts in Burma.

At the outbreak of the war the imports of hydrogenated oils from abroad completely ceased; and as a consequence of the stoppage of foreign supplies, the internal consumption of groundnut oil has increased from about 40 to 70 percent while exports have fallen from 55 percent to about 25 percent of the total production. The present time is opportune for India to develop her groundnut crushing industry and the manufacture out of groundnut oil products like Vanaspathi and lubricants. After the War, the export of raw groundnut kernels should be forbidden and encouragement should be given to the export of oil, oil-cakes and finish-

ed products. The recommendations of the Report for improving the marketing of groundnuts will be of immense use to agriculturists as well as to traders.

B. V. NARAYANASWAMY.

Mugguru Murtulu. (Three Men of Destiny). By Sri A. S. P. Ayyar, M.A., I.E.S., (Bar-at-Law) translated into Telugu by Sri. Katuri Venkateswara Rao Garu, pp. 303 published by Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras, 1941.

This novel depicts the conquests of Alexander the Great and the success of Chandra Gupta Maurya in becoming an emperor, with the tactful and timely advice and guidance of Chanakya, the politician. That these three men rose to fame by their self-effort is indicated by the title of the novel.

As a learned and experienced judge, the author has represented facts as they are and has avoided controversy; and he has solved such differences of opinion in his own way (where history and tradition differ) by coming to fair conclusions.

The Translator, Sri Katuri Venkateswara Rao, is a famous writer in Telugu. The foreign names are rightly Indianised in this novel, because the story belongs to our country, and our culture. But when the same author, some years ago, translated "Buggargal" of Victor Hugo, he, with his co-translator Sri P. Lakshmikantam, M.A., did not Indianise those names, as that plot is entirely foreign, and any attempt to Indianise those names would tend to spoil the beauty of the contents of the novel.

The style is simple throughout, classical in descriptions and narrations, and *Vyavaharika* in conversations, and in this he has attained almost an admirable success. The book abounds in a number of proverbs and wise-sayings, and continues to be interesting to the end.

The depiction of the social customs of India in those days like the payment of a ransom by a disappointed wooer, the exclamation of Alexander at the banyan tree and the rhinoceros, the incident of the presentation of chivalrous hounds to Alexander the Great, the humorous description of the escape of Chandra Gupta from prison, and the political views of Alexander on the one side and those of Chanakya on

the other, are only a few of the instructive and interesting features of this novel.

The book is certain to be popular with the Telugu-reading public.

T. A.

Groundnut (Marketing and other Allied Problems). By Dr. B. V. Narayanaswami Naidu, and S. Hariharan, published by the Annamalai University (1941), (pp. 147, Price Rs. 1-8-0).

This is a publication in the well-known Annamalai University Economic Series, and embodies the results of a study undertaken by Dr. B. V. Narayanaswami Naidu, University Professor of Economics in the Annamalai University and his Research student, Mr. S. Hariharan. This very interesting Bulletin deals with a subject of great topical interest in its international, national and local aspects. Groundnut plays an important part in the crop economy of India in general and Madras in particular. Among the districts of this presidency, South Arcot occupies the foremost rank as regards groundnut, and as such the authors have devoted special attention to this district.

In successive sections they give a succinct account of the various problems relating to groundnut such as agricultural research, marketing, transport charges, export trade, prices and finished products. The sections on marketing are of special interest and deserve to be commended. With the help of an interesting diagram the chain of middlemen, connecting the primary producer with the final consumer, is indicated, and the various handicaps to which the cultivator is subject are clearly revealed by the investigations conducted by the authors in the South Arcot District. Co-operative marketing and regulation of markets are offered as best solution of the agricultural marketing problem. The analysis of regulated markets in the various provinces of India and of the Madras Commercial Produce Markets Act with special reference to the South Arcot District will be found useful by the student of the agricultural economy of India.

Of special interest at the moment are the sections dealing with export trade and prices. The changing fortunes of the export trade in groundnut since 1909-10 have been carefully reviewed. The adverse effects of the

present war, which has led to the loss of the valuable Continental (France was our best customer) market, have been clearly brought out. The section on prices is complementary to that on the export trade. Since groundnut tends to have and a world price its price has fluctuated violently in recent years. For instance, the world depression period (1929-33) witnessed a precipitous fall of prices. After a recovery, which was particularly marked on the eve of the present war and the first eight months of the war, groundnut prices again tumbled down and reached a record low level largely in consequence of the loss of the Continental market and increase in freight and insurance charges. The prevailing low prices do not even cover the cost of production and have very adversely affected the economic position of the grower.

After commenting on the unsatisfactory progress made by the manufacturing industries connected with groundnut in this country the authors put in a strong plea for a further development of the oil and allied industries, especially in view of the numerous uses to which groundnut products can be put. This problem is invested with great urgency at the present moment, owing to the market crisis brought about by the war.

The authors deal with the various suggestions made to meet the serious situation created by the decline in exports and fall of prices of groundnut. They refer to the difficulty of finding alternative export markets as brought out by the Meek-Gregory Mission to the U.S.A. They do not favour restriction of cultivation of the groundnut crop, advocated by Dr. T. E. Gregory, partly on the ground of the unsuitability of any policy of restriction to a country like India where the *per capita* income is lamentably low and partly on the ground of the strong conservative outlook of the Indian agriculturist. They appear, however, to be unduly pessimistic when they say that any attempt to make him change his ways in preference to modern methods is foredoomed to failure. After indicating the difficulties in raising alternative crops, they finally conclude that "the easiest and the best way of utilising surplus commodities is to increase the internal demand," either by increasing the consumption of the raw commodity as such or by converting the surplus into manufactured products. While there can be no two opinions among Indian Economists and businessmen about the conclusions reached by the author, we are not sure how far the solution suggested by them is the "easiest" and how far it may result in giving prompt relief to the cultivator. The authors themselves recognise the

need for a comprehensive plan of action by the Government at more than one front.

The publication under review is the result of patient research work and should serve as an inspiration to students of Economics in other Universities. It is to be greatly welcomed both as an addition to our knowledge about the crop economy of an important Agricultural staple in India and also as an analytical and constructive study offering suggestions regarding the duty and the policy of the State in relation to Indian agriculture and industry.

S. G. BERI.

- (1) *Descriptive Catalogue of the Government Collections of Manuscript*, deposited at the Bhandarkar Oriental Research Institute, Poona, compiled by Shripad Krishna Belvalkar, M.A., Ph.D., University Professor of Sanskrit, Benares Hindu University. Vol. II, Grammar. Part I—Vedic and Paniniya, 1938.
- (2) *Descriptive Catalogue of the Government Collections of Manuscript*, deposited at the Bhandarkar Oriental Research Institute, Poona, compiled by Dr. Har Dutt Sharma, M.A., Ph.D., Professor of Sanskrit, Hindu College, Delhi. Volume XVI. Part I. Vaidyaka, 1939.
- (3) *Descriptive Catalogue of the Government Collections of Manuscript*, deposited at the Bhandarkar Oriental Research Institute, Poona, compiled by Hiralal Rasikda Kapodia, M.A. Vol. XVII, Jaina Literature and Philosophy. Part III (a) Agamika Literature 1940.
- (4) *Descriptive Catalogue of the Government Collections of Manuscript*, deposited at the Bhandarkar Oriental Research Institute, Poona, compiled by Parashuram Krishna Gode, M.A., Curator, Bhandarkar Oriental Research Institute. Vol. XIII, Part I, Kāvya, 1940.

All lovers of Sanskrit, particularly, students of historico literary Research in Sanskrit, would welcome these volumes of the descriptive catalogues of Sanskrit Manuscripts, published by the Bhandarkar Oriental Research Institute, Poona. Nos. 1, 2 and 4, now under review, are the first parts of Volumes II, XVI and XIII respectively and they describe in alphabetical order the manuscripts of *Sanskrit Grammar* (—Vedic and Paniniyan—), *Vaidyaka* (—Indian Medicine), and *Kāvya* (Poetry and Prose) respectively, and No. 3 is the third part dealing

with the manuscripts of *Jaina Agamas*, the first two parts being already published and reviewed in a previous number of this Journal. The cataloguing work has been very carefully done though the proof reading of the Sanskrit matter deserves more attention. Besides the descriptions of manuscripts the details regarding various editions, dates of the manuscripts, etc., given under the heading—‘References’ are very helpful to those who work in those fields.

The Bhandarkar Oriental Research Institute and its Research staff are to be highly congratulated for having efficiently compiled and published these volumes of descriptive catalogues and they place the Sanskrit Reading Public, particularly the Sanskrit Research scholars, under a deep debt of gratitude to them. It is hoped that further volumes of the descriptive catalogue will be pulished as early as possible.

V. A. R.

EXCHANGE LIST

Hindustan Review.
Half Yearly Journal of the Mysore University.
Economica, London.
Philosophical Quarterly.
Reading University Gazette.
Mysore Economic Journal.
Chemical Abstracts, Easton Pa.
The Punjab University Gazette.
Journal of the Bombay University.
Quarterly Journal of the Mythic Society.
Publications by the Oriental Library, Baroda.
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Journal of the Madras University.
Varendra Research Society, Rajshahi, Bengal—Annual Report and Monographs
Quarterly Journal of the Kannada Literary Academy.
Journal of the Andhra Historical Research Society.
Indian Culture.
Scripta Mathematica.
Indian Historical Quarterly, Calcutta.
Journal of the Bombay Branch of the Royal Asiatic Society.
Review of Philosophy and Religion.
Proceedings of the Durham Philosophical Society, Newcastle.
Bulletin of the Calcutta Mathematical Society.
Science and Culture, Calcutta.
Indian Co-operative Review, Madras.
Epigraphica Indica.
Monthly Weather Report, Poona.
Scientific Reports of the Imperial Institute of Agricultural Research.
The Aryan Path.
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Vishwa Vani—A journal of Indian Renaissance.
Journal of the Madras Geographical Association.
Man in India
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The Visva Bharati Quarterly.
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Bulletin of the Rama Varma Research Institute.

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GENERAL EDITOR

Professor B. V. NARAYANASWAMY NAIDU

THE PROBLEM OF RURAL CREDIT IN THE MADRAS PRESIDENCY



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CHAPTER 7

INDIGENOUS BANKING

No reliable statistics are gathered about indigenous bankers; nor is it possible to collect any information about them for they are very nervous to give out any information. The only available source through which any information can be got is the Commissioner of Income-Tax. He has got control over these indigenous bankers, who have to submit annual returns to the Income-Tax Department. Attempts to get any information from the Commissioner of Income-Tax failed. However, in 1930 the Madras Banking Enquiry Committee was furnished with information not only by the Commissioner of Income-Tax but by the officers of the various circles. Personal investigation was conducted by me through the help of a Chettiar friend in Devacottah and Coimbatore and it was possible to collect first hand information about Nattukkottai Chettians.

The importance of indigenous bankers in the supply of rural credit may be gauged by a study of the distribution of these bankers and capital employed by them in the business. The Commissioner of Income-Tax, Madras, supplied the Madras Banking Enquiry Committee with information.* The figures supplied by him include not only indigenous bankers but money-lenders, who paid income-tax. According to the commissioner, 2301 indigenous bankers with a capital of Rs. 20,32,27,264 served the urban area and about 6465 with an estimated capital of Rs. 36,08,28,123 served the rural areas of the Presidency. From that it may be concluded that a majority of indigenous bankers supply credit to the rural parts either directly or indirectly through the local money-lenders. The Chettians do not finance agriculture in the same degree as they do in Burma. The needy and the poor go to them for loans and if the borrower happens to be an agriculturist, in that sense he finances agriculture. But enquiries in Coimbatore and Devacottah show that the Chettis lend to agriculturists in nine cases out of ten. About 10% of the borrowers are traders having good financial status. To agricultur-

*Vide Appendix—Tables 40 & 41.

ists of good standing and dignity they used to lend at one time Rs. 30 to Rs. 40 thousands but lend at present not more than ten thousand. The banker who was enquired of at Coimbatore lent out on an average a lakh and a little more to agriculturists. These indigenous bankers in Devokottah and Coimbatore are managing agents of many rice mills and cotton spinning and weaving mills. In the cotton tracts of Tinnevely and Ramnad districts, in and around Koilpatti there are chetti operations. Agriculturists are provided with loans at high rates of interest. In Tinnevely the chettis assist traders in the purchase of chillies, paddy, pulses, jaggery and other articles.

Distinction between Indigenous Bankers and Moneylenders

The Provincial Banking Enquiry Committees were entrusted with the task of distinguishing between bankers and moneylenders. But many of them were unable to distinguish between the two agencies. The following statement gives the information collected by the Provincial* Committees:

Province		Number
Madras	..	No figure is given; the communities that do banking business are the Nattukottai Chettis, the Multanis, the Marwaris, the Kalladaikurichi Brahmins and the Komaties (Vaisyas).
Bombay	..	20,000 (estimated, including money-lenders).
Bengal		Number not ascertained, but it is stated that there are only a few indigenous bankers. Number is decreasing.
United Provinces	..	250 (estimated number of indigenous bankers who are willing to receive deposits: the number of modern indigenous firms is 7).
The Punjab	..	66 (according to information obtained from income-tax officers; distributed

over 11 districts; in 18 districts there is not a single indigenous banker).

Burma	Total number of chettiar offices in Burma is estimated at 1,650.
Bihar and Orissa	100,000 (estimated number of persons conducting the money-lending part of banking business. Besides, there are about 700 shroffs and urban money-lenders paying income-tax and a large number not estimated, who do not pay income-tax).
Central Provinces	There is only one indigenous firm which habitually receives deposits as a matter of ordinary business.
Assam	No information.
Central Areas	29 in Ajmer-Merwara, 43 in Delhi and 29 Hindu bankers in the North West Frontier Province, besides a larger number of Muslims. These figures are, however, not reliable, as they are not based on the definition given in paragraph 107 (distinction between indigenous bankers and money-lenders).

"In common usage in India," Mr. L. C. Jain says, "the distinction between a banker and a money-lender is generally based on the size of the working capital. It is also common according to the Central Banking Enquiry Committee, "that while there are moneylenders who receive deposits, there are certain classes of banking communities who, though they do not as a class receive deposits, have been regarded by the public for all practical purposes as bankers." While the public are not capable of distinguishing between a banker and a money-lender, it is not impossible to distinguish between the two.

Banking may be defined in two ways. The first regards a banker as a dealer in credit, one who operates a bank through the use of his own and other people's credit or funds. Many English, French and German writers define banks on this basis. According to Macleod "the very

essence and nature of a bank and banker is to create and issue credit payable on demand; and this credit is intended to circulate and perform all the functions of money. A bank is, therefore, not an office for borrowing and lending money but it is a manufactory of credit." Another school regards the banker merely as an intermediary between the borrower and the lender and the difference between the terms on which he borrows and those at which he lends forms the source of his profit. Among the many institutions which act as intermediaries in the capital market gathering the savings of the community and investing them in industry and trade, the bank is only one type. Thus a bank begins with borrowing from the public and this distinguishes it from other enterprises; it uses not its own funds but the funds placed with it by the public. Thus a banker may be taken to represent "any individual or private firm, which in addition to making loans, either receives deposits or deals in hundis or both." (Dr. L. C. Jain—Indigenous banking in India). Those who do not undertake any of these activities but lend out their own capital are money-lenders. Mr. Anwar Iqbal Qureshi says "To my mind unless the Saukhars accept deposits regularly, they cannot be styled as bankers, because accepting deposits is a fundamental function of a bank. Dealing in hundis and bills of exchange is also one of the main functions of the bank. So it is said that those who do not receive deposits but deal in hundis should be entitled to be treated as bankers for they are performing at least one of the main functions of a bank. On this analogy it can also be said that providing financial accommodation is also one of the principal functions of a bank and those who are doing the business of money-lending should also be treated as bankers. It is in this respect Dr. Jain's definition falls short. . . . The simplest and most rudimentary definition of a bank is an institution which receives deposits and lends money. This definition debars the Indian Saukhars to be included in the category of bankers." One fails to understand Mr. Qureshi's logic. When a money-lender who receives deposits is considered a banker, a money-lender who issues hundis alone is not included in the category of bankers though he may perform the functions of a bank in addition to money-lending. The only common ground between a money-lender and a banker is lending out money. A Saukhar who deals in hundis but does not receive deposits should be considered a banker.

The Provincial Banking Enquiry Committees which were asked to furnish separately the number of money-lenders and bankers, found it difficult to collect separate figures of the two agencies. The committee

should have requisitioned the help of the Income-Tax Department in collecting separate figures for indigenous bankers and money-lenders. The Reserve Bank through the Income-Tax Department could find out the exact number of bankers and professional money-lenders. Mr. Seneck, Commissioner of Income-Tax, Madras submitted to the Madras Banking Enquiry Committee, a statement of the amount of capital invested in indigenous banking in urban and rural areas. But the figures supplied by him were not utilised by the Madras Banking Enquiry Committee and the Central Banking Enquiry Committee. The census of India in 1921 estimated the number of bankers at 1,461,000 but it included bank managers, money-lenders, exchange and insurance agents and money-changers. The previous estimates in 1901 and 1911 were 1,156,000 and 1,128,000 respectively. But these figures are not in anyway helpful as they do not even allow of a rough estimate of the number of indigenous bankers. Steps should be taken to collect figures for bankers and money-lenders separately in the 1941 census.

History of indigenous banking

The business of banking was perfectly understood by the people of ancient India and fairly practised by them. Giving and taking of credit is found as early as the vedic period of 2000 B.C. One cannot be sure whether banking as such was prevalent in those days. In the early times the guilds of individuals issued coins as well as credit instruments but there is no reference to the issue of hundis or bills of exchange. The institutes of Manu give us rules regarding the recovery of debts, deposits and pledges and the rate of interest and policy of loans. Long before the development of banking in the North, the Dravidian South had a well-developed system of banking and credit, as is clear from 'Sillapathikaram' and other Tamil books written about 1700 years ago. The Chettis were full-fledged bankers who operated their bills of exchange over wide stretches of the country. J. B. Tavernier, the well-known French traveller, gave an account of the system of indigenous banking in the seventeenth century. Many of the indigenous bankers held high political authority in the Moghul courts, specially towards the closing years of the Moghul regime. The Emperor Farrukhsiyar conferred on Fatechand, an eminent banker of Murshidabad, the title of Jagath Seth. The Seths in the North and the Seths of Madura exerted great influence on the political history of the country. These bankers granted loans to the rulers and financed their long protracted wars. When the English traders came to India in the 17th century, they esta-

blished their own agency houses and took upon themselves the business of banking in addition to their commercial and trading activities. By the end of the 18th century, the indigenous bankers were shorn of much of their glory. They concerned themselves with the grant of credit to the agriculturists and the artisans and the financing of the internal trade of the country. Throughout the 19th century and the first two decades of the 20th century, new rival financial institutions were being created with the result that the indigenous bankers find their sphere of business restricted. While they are fast losing their prominence, they are not making any efforts to adapt themselves to altered conditions. "Solidity and economy are no doubt prominent features of their banking business but they are lacking in adaptability and initiative which characteristics also a sound banking system should possess!"*

Organisation and Function

In the Presidency a member of any caste takes to money-lending. In the survey conducted in the Cuddalore Taluk, various communities lent out money, in addition to government officials, (brahmins and even widows lent either on personal security or on movable or immovable property).

But the indigenous banking business is a purely family concern and has become a hereditary calling in particular classes and communities. The Nattukkottai Chettiars, the Marwaris, the Multanis and the Kalladaikurichi brahmins are the only banking communities in this Presidency. The chief banking communities are the Nattukkottai Chettiars although the Marwaris do more or less equally important business. The headquarters of the Marwaris is the Marwar State of Rajputana. The Multanis are another kind of bankers who come from Shikarpur in Sind. The Kalladaikurichi brahmins are a comparatively small community with their headquarters in Kalladaikurichi, Tinnevely District, and with their business extending over only Tinnevely, Madura and Ramnad.

The Nattukkottai Chettis

The Nattukkottai Chettiars of the Madras Presidency represent an important section of the indigenous bankers of India. The caste of Nattukkottai Chettiyars seems to be particularly organised for carrying

*B. Ramachandra Rao—Present Day Banking in India.

on the essential service of banking, for its numerous caste regulations only facilitate the efficient discharge of the duty for the society as a whole. Their population is about half a lakh. The home of this caste of enterprising bankers comprises 78 villages partly in the Native State of Pudukkottah and partly in the Ramnad district. Chettinad and Kannadukathan are some of the important business centres of the area. The palatial mansions of the bankers, the vast number of privately owned automobiles plying in these parts and the lavish expenditure on festivals and marriages are some of the visible signs of the flourishing condition of the bankers.

Their banking profession may be traced to centuries past, but the exact date of its origin and the founder of the Nattukkottai Chettiyar system of banking which differs markedly from that of Multanis and Marwaris are matters lost in the mists of antiquity. Their banking methods and practices have grown in the course of centuries through errors and trials and they may be said to have behind them the sanction of centuries. Incidentally they have evolved a system of banking that is racy of the soil. One attractive feature of the Nattukkottai bankers is their maintaining a very close relation with the borrowers and their keeping a strict watch over the financial stability of the borrowers. This practice saves them from much of the losses resulting from bad debts and from the failure to ask the debtors to repay at the right time. Unlike the agents in big commercial banks the agents and clerks of the Chetti bankers are easily approachable by the borrowers. The Chetti bankers have successfully dispensed with departmentalization and red-tapism and transactions can be done without much loss of time. But other reasons that enable the indigenous bankers of Nattukkottai to keep their own position in spite of the competition from more powerful joint-stock commercial banks are the variety of their work and the elasticity of their methods. They do not stick to cut and dry rules of banking but adjust their business to changing situations and needs; their system of banking not only includes the canons of safety and liquidity but exalts the service to their clients to the same level." They lend money for short as well as long periods. They finance the industrialist, the agriculturist and the retail wholesale trader. They also act as agents for the

* See: The Nattukkottai Chettiars and Their Banking System by Dr. B. V. Narayanaswamy Naidu; Rajah Sir Annamalai Chettiar Commemoration Volume; pages 458 to 472.

transmission of moneys. It may be remarked that the work done by several kinds of banks—commercial, industrial, investments and co-operative—in advanced industrial countries is discharged to a very great extent by the Nattukkottai bankers of one kind or another.”

Such high level of efficiency and enterprise that characterise the bankers of Nattukkottai are not attained by muddling their way through but by the conscious training of their sons and successors in the art of banking. They have imbibed to the full the contents of the maxim “Good banking depends on good bankers.” Most of the Chetti bankers who have won laurels in their profession are not diploma holders in Banking, but those were brought up in the hard school of experience and practice. No doubt diplomas are useful but the fact that the Chetti bankers are able to attain such eminence in their field without recognised diplomas bears testimony to the training given during the period of apprenticeship. In the words of Mr. Thurston “the Nattukkottai Chettis, in organization, co-operation and business methods, are as remarkable as the European merchants. the simple but strict training which they give their boys, the long and tedious apprenticeship which even the sons of the richest among them have to undergo, make them very efficient in their profession and methodical in whatever they undertake to do.”

The Nattukkottai Chettis conduct their business both direct and through their branches in charge of agents. These agents are picked out of those who have considerable experience in the business and who satisfy the Chettiar about their capacity to bear the special and onerous responsibilities cast by different branches of the firm in India, Burma, Malaya and Indo-China. The expenses of every agent including boarding and lodging are borne by the firm he represents. The salary of an agent varies from Rs. 150 and above according as he is sent to branches nearby Chettinad or farther away from Chettinad such as Rangoon, Moulmein, Singapore or Saigon. The agents are sent to represent the firm for a period of three years and a successor is sent to relieve him a month or two before the completion of the term. Sometimes the agents are given a share in the profits of the firm. The high salaries, and shares in the profits are paid in order to keep their agents above the temptation to carry on private trade in a way detrimental to the interests of the firm he represents. But any evasions on the part of an agent can be very easily detected by the proprietor of the firm for he is himself brought up in the very school of experience and he is well aware of every secret of

the trade and the opportunities for evasion. Any detection of such misbehaviour on the part of an agent will stand in the way of his being sent to represent any other firm in the future. This fear acts as a check upon the agents against plying their private trade. Besides the proprietor of the firm pays periodical visits to the different branches and thus directly acquaints himself with the way in which the officials in different branches conduct themselves.

The capital resources of the Chettiyars appear as though they are inexhaustible. Their credit stands high with the Imperial Bank and other joint-stock banks and they can easily obtain accommodation on joint signature. The Chetti bankers have good words to say to any successful businessman and continue to supply him with liberal credit facilities once they understand that his venture is financially sound. They will overcome the limitations imposed by shortage of capital for helping a customer of good standing. It is very difficult to estimate the actual working capital of about 243 Nattukkottai Chettiyar bankers carrying on extensive business in Madras, Burma, Ceylon and Malaya States through a network of branches. But attempts were made to estimate the actual capital utilised in their extensive business. In a written evidence submitted to the Madras Banking Enquiry Committee it is said that the wealth of the Chettiyars may be roughly estimated at about Rs. 80 crores. It is also estimated that the total floating capital of Chettiyars in the business is about Rs. 75 crores of which about Rs. 58 crores are their own and those of their relatives, the rest are deposits from their customers in different parts of the country. A good proportion of their capital is involved in transactions in Burma, Federated Malay States and Ceylon and comparatively a small part is utilised in the business within the presidency.

An idea of the variety of business transacted by the Chetti bankers can be gleaned from the oral evidence given before the Madras Provincial Banking Enquiry Committee. The Chetti bankers lend on 'personal security, promissory notes, hundis, hypothecation mortgage, against bills of exchange, title deeds, as well as stock in trade.' Besides they act as company promoters and financiers in addition to their managing extensive paddy lands in Burma and rubber estates and tin mines in Malay States.

The deposits of Chetti bankers are of two kinds (1) the current deposits received at the 'Nadappu' rate of interest (The 'Nadappu' or current rate is fixed every month at the meeting of the Chettiyar business-

men of the Madras City. The rate varies from 6 to 12 percent per annum according to the demands of the money market). (2) the 'thavanai' deposits corresponding to the deposits of the jointstock banks. But the 'thavanai' deposits are received for a period of two months after which period the depositor has got the option to withdraw them and, if he fails to do so, the Nattukottai Chettiars in their meetings fix the rate for 'thavanai' deposits every week after studying the condition of the money market.

The Chettiars' lending rates vary according to the amount lent and the security. It is always above the bank rate ranging from 6% to 12% according to the seasonal variations of demands for credit. The lending rate of the Chetti bankers is higher than that of joint-stock banks because most of their lending is on personal security which is not very much recognised by the joint-stock banks. In some parts of the country a practice has grown up of providing in the loan document higher rates of interest than is actually intended to be recovered from the debtors in order to cover possible losses in the event of the debtors resorting to tactics to delay realization.

The lending rates are higher in villages than in towns because the borrowers in the villages fail to give adequate securities for their loans and partly due to joint-stock banks not competing with the Chetti bankers in financing the villagers. Under the Agricultural Loans Act, Land Improvement Loans Act, the Government has given only very little help to the agriculturists. The co-operative credit societies have to do much spade work in order to become more popular and be in a position to supply the agriculturists with any substantial amount of credit. So the indigenous Chetti bankers are the main channels through which credit flows into the villages. Sometimes the Chetti bankers finance the agriculturists indirectly. They supply credit facilities to the village merchants and town traders with whom the agriculturists are keeping accounts. These middlemen supply credit facilities to the agriculturists on the understanding that the produce of the borrowers should be brought to them for sale. Thus the Nattukkottai bankers play an important part in the financing of agriculturists.

Some bankers lend money on what is known as 'kandu' or 'thandal' system. When money is lent on this basis, interest is taken in advance and the loan is paid in equated instalments daily or monthly. The actual rate of interest realised by the lender is far greater than the rate at which the whole loan is advanced. The relevant passage in the Oral

evidence before the Madras Banking Enquiry Committee will give us an idea of the usurious nature of this system.

Question: What about the kandu system?

Answer: That is only a very small proportion. We lend say Rs. 100 at 1 percent per month for three months. We deduct the interest say Rs. 3 and the principal can be repaid in monthly instalments or even weekly.

Q: You lend Rs. 100 repayable in 10 monthly instalments and the interest of Rs. 10 is deducted and you pay the man Rs. 90 and he executes a pro-note for Rs. 100. He repays the amount in monthly instalments of Rs. 10. What is the actual rate of interest in that case?

A: It will come to about 19 percent.

Q: If you lend at 12 percent and 12 instalments?

A: When it is 12 months we get 24 percent interest. When the period is long the interest may be high. But nobody will borrow large sums in that way.

Q: If you lend Rs. 100 to be repaid at the rate of a rupee a day for 100 days how much do you deduct in the first place?

A: We deduct Rs. 3-5-4 and hand over the man Rs. 96-10-8. But the amount that is lent is very small. Such shops are called kisti shops or thavanai shops. Big firms do not do such business. The maximum a man can lend like that will be Rs. 10,000 and even for that amount, for keeping accounts of all the constituents he would require about 100 clerks.

(Oral evidence given by M.R. Ry. O.R.M.M.S.M. Sevaga Chettiyar and T.A.R.C.T. Arunachalam Chettiyar Vol. III—Oral Evidence p. 244).

Agriculturists do not generally borrow on 'kandu' system because they cannot meet daily or monthly repayments. They borrow a lump sum and repay it during the harvest season. Small shop keepers and petty traders and some officials receiving monthly salaries resort to this system of borrowing because it means easy repayment. Another reason that influences these people to borrow on 'kandu' system is the unwillingness of the joint-stock banks and other institutions to advance them credit on personal security.

The Chetti bankers also advance longterm loans on the security of lands and other immovable properties. These loans are called 'bokkiam' or 'othi' loans. By this system the lender enjoys the benefits of the possession of property till the money is returned. The maximum period for this loan is 60 years and after this period, if loans are not repaid, the property automatically becomes the property of the creditors. This is an important method by which agriculturists get long-term loans.

Besides lending money on short and long terms to agriculturists and traders, they also facilitate the transmission of money by hundis. They are of three kinds:—

- | | | |
|---|---|--|
| <ol style="list-style-type: none"> 1. Darsani hundis 2. Nadappu Vaddi hundis 3. Usance hundis payable at fixed period after a particular date or on sight. | } | <p>Sight hundis—the second carries interest at nadappu vaddi rate from the date to the presentation.</p> |
|---|---|--|

The Chetti bankers are able to undertake this kind of business because they possess branches in Burma, Malay States, Saigon and different parts of India.

The capital of the Nattukkottai Chettiyars plays a leading part in the development of many countries in the East. Burma, Malay States and Indo-China owe their economic rehabilitation to the enterprise of the Chetti bankers. In 1927 Sir Harcourt Butler, then Governor of Burma, in a speech addressing them said "You represent a very important factor indeed in the life of this province. Without the assistance of the Chettiar banking system Burma would never have achieved the wonderful advance of the last 25 years. The Burman to-day is a much wealthier man than he was 25 years ago; and for this state of affairs the Chettiar deserves his share of thanks." The war in the East has resulted in severe losses for the Chettiyars. Their connection with the mother country is cut off. Their valuable rubber estates and tin mines in Malay states are greatly damaged due to enemy action or by the 'scorched earth policy.' Yet they put up with equanimity these big losses and oppression of the enemy in the occupied Malay States in the hope that the Allies will reverse the course of events and once again protect their interests.

One of the serious problems of the Chetti bankers is their not being closely linked to the Reserve Bank. Any reasonable stipulation with

regard to capital, deposits, regulation of their business activities, submitting their accounts to audit, furnishing balance sheets to depositors and lenders may be acceptable to indigenous bankers who want rediscounting facilities with the Reserve Bank. But the stipulation on the part of the Reserve Bank, that the indigenous bankers should keep as reserve a large amount of fluid resources will be entirely unsuitable for them as it means a quick change in the century-old banking habits of the community. The Reserve Bank must take into consideration the long-standing business habits of these bankers and make a fresh attempt to discover ways of linking them up with it. Then alone the policy of the Reserve Bank will be felt in the distant corners of the country and in a way lessen the great disparity between the Reserve Bank rate and the interest rate prevailing in the villages.

The Agricultural Debt Legislation in the Presidency made the indigenous bankers sustain great losses. Seasoned businessmen as they are, they withstand any economic blizzard or crusade, carried on by the Government. But the government should realise that the Indian budding rose—the indigenous banker—can be made to have its splendour and fragrance only in an atmosphere of encouragement created by the State.

The Nattukkottai Chettiars not only excel in the sphere of banking but also shine in the social and civic life of the country. Their favourite way of doing charity is to renovate old temples. The numerous temples renovated by the Nattukkottai Chettiars—monuments of their munificence—can be found all over the country from Benares to Rameswar. By renovating temples the Chettiars are doing yeoman service for spreading religious beliefs among the people. The model residential university at Chidambaram owes its establishment to the munificent grants of Raja Sir Annamalai Chettiar of Chettinad, a leading member of the Nagarathar community. There are many other members of the community adorning different spheres of activities e.g. politics, law, rural uplift etc. The enterprise of the Nattukkottai Chettiars has enriched the economic, social and political life of the country.

Interest

In Karaikudi the rate of interest varies from 12 to 36%. The Assistant Commissioner of Income-tax, Madura has mentioned a case where a loan of Rs. 7875 advanced in 1886 by a Chetti to a zamindar was decreed in 1916 for Rs. 1,58,773—i.e., in thirty years the capital multiplied itself twenty times. In Sivaganga the rate of interest varies from

18 to 24% compound interest with one year's rest. In the Virudhunagar area the rate of interest varies from 12 to 48%. Enquiries among the bankers in Devacottah and Coimbatore have revealed that while the rate of interest entered in the bonds amounted to 36% or 24%, under normal circumstances when the agriculturist came to pay back the money, a lower rate of interest varying from 12 to 15% was collected. Thus there is mutual understanding between the agriculturist and the banker. But when recovery was made through a court of law, interest that was actually mentioned in the bond was collected. After the Agriculturist's Relief Act the position has changed.

There are no specific rates of interest for any series of years that can be tabulated. Of course the Chettians adopt a current rate of interest analogous to the Imperial Bank rate and fix it every month in a meeting of the Chettiar businessmen in Madras. Thus there are various rates called the Madras Nadappu vaddi rate and the Rangoon Nadappu or Thavanai rates. It is said that these govern the current rate of interest in their operations throughout South India. But they are not binding on the bankers. In Coimbatore the rate of interest between 1929-30 was Rs. 1-8-0 to Rs. 2 per month for Rs. 100. In 1935 the ruling rate of interest was 36% and in 1939 the rate of interest is still 24% though decrees of court are made only at 6¼%. However after the Debt Relief Act the bankers collect at least at the rate of 15% interest for a few months in advance before lending to the agriculturists. In Coimbatore it is usual for the Chettiar to collect the debts in kind at a price a little lower than the market price.

Thus it can be seen that while the nadappu vaddi rates from 1929-39 show remarkable fluctuations, the actual rates charged by the bankers do not show any notable change as is evident from the enquiry. The nadappu vaddi rate is determined in the city where the rate of interest fluctuates according to the demand in the money market. But in the villages no such impact is felt. The usual rate is maintained intact even when the season is slack. In times of stringency also the rate is not changed to avoid unpopularity by departing from the customary rate. Dr. Jain aptly says "But in an Indian village the usual rates are maintained intact, even when the season is slack. The reason lies in the ignorance and adherence to custom of the villagers. The borrower keeps paying the same old rates on new loans because he knows little about the plentiful supply of money with the local moneylenders, in so far as it may be the case. When, on the other hand, loanable funds be-

come scarce or the demand for money is great, and no money flows from other centres, more or less the same old level of rates still obtains, because the moneylender does not like to incur unpopularity by departing from a customary rate in a land where custom has such a remarkable hold on the imagination of the people."

The Multanis are intermediaries between traders and joint-stock banks. They finance the inland trade and the advances they give to the merchants on their personal security are used for advances to agriculturists and on transactions covering goods in transit. Of course they lend on produce pledged with them in godowns on a very limited scale and release the produce piecemeal on repayment of loans. But generally they lend to agriculturists only indirectly. The rate of interest they charge on small loans amounts to only 9 to 13%. But on weak securities their rates range from 18 to 24%. The main business of the Multanis is the discounting of hundis.

The Marwaris do not finance industry to any extent, nor do they directly give advances to agriculturists. But the agriculturists are financed indirectly by their funds when money is lent to merchants. The Marwaris deal in lending money on gold ornaments. The rates charged on pledge of ornaments are very high rising up to 30 to 50%. They lend a very small amount on mortgages at the rate of 9 to 12%, on produce from 12 to 15%, and on pronotes from 12 to 18%. On drafts and accommodation hundis they charge 8 annas per cent.

The Kalladaikurichi Brahmins are also called the hundi-merchants. They discount only at 9 to 12% and lend up to 15%. They do not usually deduct interest for loans in advance. The hundies are mostly clean hundies for accommodation or transmission of funds on personal security.

Hundis

An important part of the business of the indigenous bankers is dealing in hundis. It is through the discounting of hundis that the Marwaris, the Multanis, the Kalladaikurichi Brahmins and to a very small extent the Nattukkottai Chettiars help the agriculturists indirectly through the merchants.

Dr. Jain defines a hundi as follows:—"In simple words a hundi may be defined as a written order—usually unconditional—made by one person or another for the payment on demand or after a specified time

of a certain sum of money to a person named therein." But while an English bill of exchange must be an unconditional order, an Indian bill need not be so. The hundi differs from a bill of exchange because there is nothing to show that they are drawn on commercial goods and the joint-stock banks will not readily discount them. They can, however, be compared to the single-named unsecured American commercial paper which is discounted by the commercial banks. They also partake of the nature of promissory notes or cheques. Thus a hundi is an inland trade bill on which advances could be raised. Hundis are also used for accommodation and remittance purposes. A person wishing to send money from one place to another may buy a hundi from a local banker and send it to his creditor who will cash it at the bank in his place. This can be done only if the drawer of the original hundi is well known.

Generally hundis are of two kinds—Darsani hundi payable at sight or on demand and muddati hundis payable after a stipulated period of time mentioned in the bill. These hundis are generally used by the Marwaris or Multanis but in the case of Nattukkottai Chettiers there is a special kind of hundi which bears interest at the nadappu or current rate fixed monthly on the 16th of each Tamil month at Madras. Legal opinion is divided as to whether this is, strictly speaking, a negotiable instrument according to law.

It is evident from inquiries made in Devacottah that only non-Chettiar banks deal in various kinds of hundis which form the main instruments of transaction. Among the indigenous Chettiers, they are not so popular. The banker who was examined described the drawing of a hundi. At first the banker studies the financial conditions and the creditworthiness of the person (generally a Chettiar) and authorises him to deal in hundis with his bank. The authorised person draws a hundi on his creditor and signs on the back of the hundi and the creditor goes to the bank and cashes the hundi. The person who is responsible to the bank for the money drawn is the person authorised by the bank to draw the hundi. Of course a limit is fixed beyond which the bank may refuse to discount the hundies. There is a particular hundi which is not used by the Chettiar bankers—that is, the 89 days hundi. The period of life of the hundi is 89 days and on the last day the drawer of the hundi should pay back the sum drawn with interest to the banker. If he is not able to repay on the due date, the hundi will be produced in a court of law or a fresh hundi will be drawn on the name of some other person with the signature of the hundi drawer on the back of the hundi.

The indigenous banker acts as the middleman between the Imperial Bank and the joint banks on the one side and the vast trading community on the other. He buys the trader's bills at high rates of discount and when there is a pressure on him for money rediscounts them at these big joint-stock banks. The joint-stock banks do not discount the hundis direct from the small traders, for it would be taking enormous risks. The Imperial Bank considers this business safe enough, as the endorsement of the bankers makes them responsible for the amount. Unless a hundi contains two signatures the Imperial Bank does not discount it.

In order to regulate the rate of discount in accordance with the changes in the Imperial Bank Hundi Rate, there are various associations of the Marwaris, the Multanis and the Nattukkottai Chettians. The Imperial Bank is prepared to rediscount first class three months' bills. The bazaar rates are those at which the bills of small traders are reported as discounted by indigenous bankers, though there are no official quotations. The Reports of the controller of currency and of the Reserve Bank give only the bazaar rates of Calcutta and Bombay.* There are no statistics regarding the bazaar rate of Madras. The bazaar rates vary with various types of indigenous bankers. Usually they are higher than the Imperial Bank Hundi Rate. The difference between their rediscount rates at the Imperial Bank and the rate at which they buy them constitutes the profits for the indigenous bankers. Since the endorsement of the indigenous banker is necessary for rediscounting the hundis with the Imperial Bank or joint-stock banks, merchants have to pay the price demanded by the indigenous bankers. As Dr. Jain says "the bazaar rate is an index of conditions in the indigenous money market and the signal of the direction in which the bank hundi rate is going to move." It is necessary to publish officially the Madras bazaar rate as is done in Bombay and Calcutta. The bazaar rates in the Madras Presidency vary with various classes of indigenous bankers. It is necessary that the indigenous bankers in various important money centres of the Presidency should form themselves into discount markets to deal in bills.

Defects of Indigenous Banking

Banking in the modern sense consists in issuing credit and dealing in credit operations such as deposit-holding and discounting. But indigenous bankers have done very little to supply credit. As we have

*Vide Appendix II—Table 43.

already seen there is no discount market in India nor have the indigenous bankers tried to create a discount market. The discounting of hundis plays a very small part in this Presidency and among the Nattukottai Chettiers, it is fast disappearing. Even the majority of these small number of hundis are used mainly for remittance and mercantile exchange. The small use of hundis results in the divergence between the Joint Stock Banks and the indigenous banks. The possibility of linking these two institutions becomes very remote.

The indigenous bankers do not take the trouble of attracting deposits to any large extent. They generally lend out their own money. Thus their business is mostly moneylending. The result is the hoardings of the people remain untapped. Moreover small depositors in chetti firms do not get regular copies of their accounts. There is a general opinion that the rates of interest charged by Chettiers are exorbitant and "that they are flint-hearted and screw out money from debtors without a spark of mercy." Cases have been brought to light where some Chettis get blank pro-notes signed by their parties. Under the kandu system of loans granted by Chettis, the high rates of interest charged are imposed under cover of equated payments of the total amounts. In England there is a ruling in a case—"where, in consideration of an advance of £ 50, promissory note for £ 70 was taken from a borrower the amount being repayable by 22 weekly instalments, and upon default in payment of any instalment, the whole sum was to become due, the court reopened the transaction on the ground that interest might turn out to be very excessive and that the rate was not understood by most people. (*Levene vs. Titchner*, 23 T.L.R. 508)". Under the kandu system the rate of interest is very excessive and the borrowers do not realise it.

The absence of a unified credit system is an important feature of the Indian money-market. There is no connecting link between the indigenous banker and the Indian joint-stock banks. Generally the indigenous banker trades on his own capital and only in busy season does he approach the Joint Stock Banks for accommodation. So for the most part the bazaar rates are not determined by the hundi rates of Joint Stock Banks. Thus there exist in the Indian money market two sets of rates.

The efficiency of a bank depends upon the stability of its business, adaptability to changing conditions and initiative to create new development. The indigenous banking system, while possessing stability to a remarkable degree, is lacking in adaptability and initiative. In this Presidency the Bank of Chettinad alone has modernised its business.

The Future of Indigenous Bankers

In the beginning of this century, Sir Henry Strakosch said that the best way of attaining a co-ordinated credit system in India is through the establishment of new Reserve Bank, a strong link between the Joint Stock Banks and the Reserve Bank and a close contact between Joint Stock Banks and indigenous bankers. While a Reserve Bank is an accomplished fact and attempts are being made successfully to bind the Joint Stock Banks and the Reserve Bank, the third is difficult to achieve. Moreover, the cry now is for a direct linking of the indigenous bankers with the Reserve Bank. The future of the indigenous bankers lies in their reforming their business themselves and thus promoting a new indigenous paper which will be discounted by the Joint Stock Banks and rediscounted by the Reserve Bank very easily. Before putting forth the various suggestions for their improvement, it is better to examine the attempts of the Reserve Bank to extend their operations under section 55 of the Reserve Bank Act to persons and firms other than scheduled banks but engaged in the business of banking in British India for effecting a closer connection between agricultural enterprise and the operations of the Bank. The Reserve Bank has rightly come to the conclusion that the indigenous bankers are indispensable in the present development of banking in the country, for it earnestly believes that however much banking may be developed in the country by scheduled banks, they will not be able to meet the needs of rural areas in the same measure as it has been possible in the western countries, notably United-Kingdom and United States of America. Dr. L. C. Jain says of indigenous bankers "The slow but sure disappearance of many indigenous money-lenders will be unfortunate in India, as it will involve the loss of a wealth of invaluable knowledge of local conditions, personal contact and relationships, extending over centuries and of ancient banking methods and practices which if retained and judiciously mixed with modern up-to-date developments should be a source of great strength and solidarity to the Indian banking system." The Central Banking Enquiry Committee was also of the opinion "...that, in the interests of both the general public and the indigenous bankers themselves, steps should be devised to strengthen the position of these bankers."

The Central Banking Enquiry Committee has recommended that as soon as the Reserve Bank is established the indigenous banker should along with Joint Stock and Co-operative Banks be brought into direct relations with the Reserve Bank for the purpose of rediscounting facili-

ties. But only such indigenous bankers as are engaged in banking proper or are prepared to shed their business other than banking, should be eligible to be placed on the approved list of the Reserve Bank. The Reserve Bank should lay down the minimum amount of capital to be owned by the indigenous bankers, though the standard of owned capital should be fixed at a lower level for them than for the joint-stock banks. They must also keep proper books of account, get them audited annually by recognized auditors and allow them to be inspected by the Reserve Bank. In the matter of maintaining a certain percentage of their total liabilities as interest-free balance with the Reserve Bank, the Committee recommended exemption for five years of such indigenous bankers whose deposits do not exceed five times their capital, from this rule of compulsory deposits.

The first circular issued by the Governor of the Reserve Bank on May 6th, 1937 regarding the extending of credit facilities to indigenous bankers, suggested that it would be impossible, under existing conditions, to deal with the indigenous banker direct. The reason attributed is, that their number and the nature of their business which is highly personal and fluid in character would create an impossibly large and costly organization to keep personal contacts with them. So the Reserve Bank proposed to deal with them only through some intermediaries, which would share the financial responsibility and undertake the detailed examination and control which is necessary if credit is to be accorded.

The Reserve Bank expected the indigenous bankers to put up some practical scheme to enable them, to deal with them direct. Certain conditions were to be fulfilled by the indigenous bankers before they could think of being linked up with the central bank directly. They should become self-contained legal entities with reasonable resources of their own as is stipulated for scheduled banks. But under section 42 of the Reserve Bank of India Act, a scheduled bank must have paid up capital and reserve of an aggregate value of not less than Rs. 5 lakhs. This is too hard for the indigenous bankers who are working under a very peculiar condition. The Central Banking Enquiry Committee, on the other hand, said that the Reserve Bank should fix the standard at a lower level than that for Joint Stock Banks.

They should maintain separate and properly audited accounts of their banking business with legal provision for segregation of any other business which they might be conducting, so that liabilities incurred in respect of one may not affect the credit in respect of the other business. Of course this provision is essential for sound banking practice.

They have to confine to bonafide trade and not to speculation. They should make proper arrangements to ensure proper publicity of their transactions, particularly with reference to their balance-sheets and accounts. They have also to maintain the same deposits with the Reserve Bank as scheduled banks for purposes of control. Section 42 of the Reserve Bank of India Act provides that every bank included in the second schedule shall maintain with the bank a balance, the amount of which shall not at the close of business on any day be less than 5 per cent of the demand liabilities and 2 per cent of the time liabilities of such bank in India. The Central Banking Enquiry Committee recommended that so long as the time and demand liabilities of an indigenous banker are not more than five times their capital, he should not be called upon to make a compulsory deposit required in the case of a scheduled bank for a period of five years. Moreover, as the indigenous bankers trade on their own resources, deposits are relatively less important. Even direct linking with the Reserve Bank will not increase their deposits to an appreciable extent in a very short time. Hence a strict minimum of cash ratio to liabilities is not necessary, as the liabilities do not affect the public deposits which are very small. So the indigenous bankers need exemption on the lines indicated by the Central Banking Enquiry Committee. It is also necessary that the Reserve Bank should in some deserving cases increase the number of years of exemption from compulsory interest-free deposits.

The provisional scheme outlined in the communique relegates the indigenous banker to the background. Moreover, the communique added "...but in practice at present it would appear that where the indigenous banker is properly organised, the scheduled banks are prepared on a competitive basis to meet him in these respects to such an extent that there will be little actual advantage in further organising himself as a scheduled bank." But it may be pointed out that the scheduled banks will not have their business extended to remote villages and it is the personality of the indigenous banker and the tradition behind indigenous banks which attract the agriculturists more to him. Moreover, certain privileges granted to the indigenous banker by the Reserve Bank in the matter of direct dealing and rediscounting will filter down immediately to the agriculturists, who will then be in a better position.

The provisional scheme provided for two kinds of bills with which the Reserve Bank could deal; the bona-fide trade bill originating with a merchant or agriculturist and endorsed by the indigenous banker and

rediscounted with a scheduled bank. The nature of the transaction need not be set out in the document, but the scheduled bank would be responsible for it. The second bill would originate from the indigenous banker in the form of a promissory note with a possible second signature and discounted by a scheduled bank. These bills should be for the purpose of helping local trade and agriculture. The responsibility and the risk thrown on the scheduled banks are too much. Moreover, to ascertain the genuineness or otherwise of the transaction, a special staff is necessary and this will be an added burden on the scheduled banks. Until the scheme developed, the Reserve Bank would merely make demand advance to the scheduled banks, who would be responsible for the collection of bills on maturity. To prevent scheduled banks from overtrading or overfinancing a particular commodity, they were required to inform the Reserve Bank of their total advances under different heads. Such advances would be, at first, of a seasonal nature only. It was emphasised that scheduled banks must operate primarily and ordinarily on their own resources. The scheme gives to the Reserve Bank only the position of mere advance of credit. It carefully shirks off all responsibility. The responsibility for collection of bills on maturity falls on the scheduled banks.

It was feared that the scheduled banks would charge excessive rates to shroffs. The Reserve Bank held that very rarely the rates would be high, for where the indigenous banker was properly organised and confined his activities to clean banking business as in the case of Multani shroffs and the Cutchi Memons and Marwaris in respect of finance bills, he would be able to obtain funds at as favourable rates as on government paper. Where a scheduled bank discounted a paper on more than a reasonable margin above bank rate, say 2 or 2½%, the Reserve Bank might refuse to accept the paper for rediscount. But the best method to avoid such difficulties is to deal direct with the indigenous bankers. Otherwise the aim of supplying cheap credit will be frustrated. Moreover, if the Reserve Bank deals direct with the indigenous banks the higher percentage over the bank rate charged by the scheduled banks will not persist and this benefit will pass to traders and agriculturists.

After considering the replies to the Bank's preliminary proposal a draft scheme was issued on 26th August 1937 for linking the indigenous banks with the Reserve Bank. The proposals were based on the report of the Central Banking Enquiry Committee and the recent changes in the Indian Companies Act affecting joint stock banks. The main sug-

gestions are as follows:—So long as the indigenous bankers do not take deposits but trade on their own resources or on loans from other indigenous bankers or commercial joint-stock banks, the Reserve Bank considers that they are not eligible for central banking facilities. Only the commercial banks can gauge the credit-worthiness of these private bankers. Direct relationship would be extended to indigenous bankers if and when they confined their activities to banking proper as defined by the Indian Companies Act. Section 277 F. of the Indian Companies Act (amended in 1936) defines a banking company as follows:—"A 'banking company' means a company which carries on as its principal business the accepting of deposits of money on current account or otherwise subject to withdrawal by cheque, draft or order, notwithstanding that it engages in addition in any one or more of the following forms of business etc., etc." It is not, however, necessary that they should incorporate themselves under the Companies Act. What is essential is that they should develop deposit banking on approved lines and should maintain accounts which will be properly audited and published. Private bankers who do not wish to incorporate themselves under the Indian Companies Act, would have to file a statement setting out the names and interest of their business partners and other statements prescribed for scheduled banks. If they were members of joint Hindu families, the names and interest of the various co-sharers with similar statements from them testifying their willingness to assume full share in the business should be filed. The Banking Enquiry Committee did not suggest any precise figure for the minimum limit of capital that should be owned by private bankers to get registered in the books of the Reserve Bank. The Reserve Bank suggests that the initial requirement should not be less than two lakhs and should be capable of being raised to five lakhs prescribed for scheduled banks within a period of five years, during which period those private bankers need not furnish the compulsory deposit set out in section 42 of the Reserve Bank Act, unless of course the weekly statements disclose that their time and demand liabilities are five times or more in excess of their capital in the business. During the experimental period of five years any private banker who found the developments unsuitable would be at liberty to renounce direct contact with indigenous bankers. It would also be convenient after the experimental period to put up any definite proposals to the legislature, either for the framing of a separate Bank Act or to co-ordinate the position of these private bankers. Where indigenous bankers do not wish to organise themselves on the above lines, they should be given the opportunity

of developing their discount business by the Reserve Bank encouraging commercial banks to give the private banks facilities for organizing such business. Another proposal of the Reserve Bank is that the private bankers who are not eligible for direct linking with the Reserve Bank may organize themselves on a joint-stock basis into discount companies. The Reserve Bank would discount their paper when presented through such discount houses in accordance with central banking principles. This will not require the private bankers to change their methods of business.

The Reserve Bank received eleven replies from indigenous bankers of different classes. Generally all the private bankers disagreed with the suggestions regarding taking of deposits and giving publicity to accounts. The Shroff Association, Bombay, in their memorandum say that the business of commission agency carried on by them comes under the definition of banking section 277 (f) of the Indian Companies Act. The Association is of the view that in the segregation of business, the Reserve Bank should wait till, after its dealings with these persons, it is convinced that the continuance of a particular business in each case could result in such serious risk as to demand its discontinuance. The Association says that only speculative business should be prohibited by the Reserve Bank and not all business. They want to deal in gold and silver ornaments and silver utensils. The Association do not seem to appreciate the point of the Reserve Bank in emphasising the necessity of segregating the business of banking from other business. So long as the indigenous bankers do not take deposits, indulging in other business will not be harmful. But as soon as they come into contact with the Reserve Bank, deposits will increase and there will be greater necessity for discounting business other than banking. The Shroff Association and Seth Fatichand Gokaldas, Bankers, Madura (two representative bankers) are against the publication of returns prescribed for banking companies by the Companies Act. Seth Fatichand Gokaldas is also against auditing of books by auditors. He is not even prepared to produce the books to the Reserve Bank. He says "our business is based on strict privacy and it will greatly hamper our business if we make up our mind to show our account books." One of his arguments is that the linking with the Reserve Bank will be looked upon with scorn by scheduled banks, who are giving great facilities in the matter of discounting bills. Multani bankers, says Gokaldas, would not like to have compulsory deposits with the Reserve Bank; nor will they reveal the real position of capital in trade.

The modification in the scheme required by the indigenous bankers is so impracticable and against the principles of central banking practice that the Reserve Bank cannot undertake such serious risk. The other alternative for indigenous bankers to carry on their business in addition to banking is to form discount houses. An open bill market where first class bills could be freely negotiated is a desideratum. But are there sufficient trade bills in India for the Reserve Bank to undertake open market operations? Just as in Africa, where the establishment of a Reserve Bank did not result in the control of credit simply because there was no open market for discounting bills, so also at the present juncture bills have not developed in the rural areas of India. The indigenous bankers discount their customers' hundis with the joint-stock banks only very occasionally when their own resources are exhausted and are badly in need of accommodation. The joint stock banks do not deem it safe to purchase bills direct from the small traders, without the indigenous bankers' endorsement. For it is not clear on the face of a bazaar hundi whether it is a pure finance bill or a genuine trade bill since it is not followed by sale contracts, documents of title to goods etc. The system of cash credits is widely prevalent and bills are looked upon with suspicion and aversion by the small traders and agriculturists. An examination of the assets of the Reserve Bank of India will clarify the position of the use of bills.

(December 7th 1939)

Banking Department

Assets—

<i>Notes</i>	<i>Rs.</i>
(a) Legal Tender in India	11,30,31,000
(b) Legal Tender in Burma only	2,00,000
Rupee coin	6,03,000
Subsidiary coin	5,54,000
<i>Bills purchased and discounted—</i>	
(a) Internal	
(b) External	
(c) Government Treasury Bills	4,59,99,000
Balances held abroad*	16,57,21,000
Loans and advances to Governments	3,62,00,000
Other loans and advances	50,000
Investments	6,92,74,000
Other assets	3,55,41,000
Total	46,71,73,000

*Includes cash and short term securities.

The Central Bank's assets are mainly composed of legal tender notes, rupee coins, Government treasury bills, loans and advances to government and balances held abroad which are composed of cash and short-term securities. Bills purchased and discounted either internal or external are nil. 'Other loans and advances' represent only Rs. 50,000 out of the total assets of Rs. 46½ crores. This item may not include entirely loans and advances to commercial banks. The control of commercial and other banks by the Reserve Bank depends on the bills purchased or rediscounted or the loans advanced to those institutions. The various sections of the Reserve Bank for offering discounting facilities to banks are merely dead letters; moreover, banks are very suspicious in discounting their bills with the Imperial Bank, for such business is considered to be a sign of weakness by the market. Joint-Stock Banks prefer taking loans from the Imperial Bank on government securities to offering bills for rediscounting because the latter is itself a competing commercial bank and it is not advisable to let out the secrets of bill portfolio to a rival bank. It is hoped that the Reserve Bank will obviate these difficulties. Added to these obstacles in the way of the development of a bill market, heavy stamp duties have been imposed on hundis and bills.

The problem of the future of indigenous bankers is to find out the way for the development of a sound bill market by the creation of first class agricultural paper and trade bills. On the development of such a bill market, the indigenous bankers can rediscount the bills with the Reserve Bank without the necessity of changing their agelong method of business. For the creation of a bill market the indigenous bankers have however to organise themselves to some extent.

Moneylenders and indigenous bankers in a group of villages may combine themselves into Joint Stock Banks by pooling their resources. Such Joint Stock Banks of indigenous bankers exist in Devacottah, Ramnad and Coimbatore. For example the Nattukkottai Bank Ltd., Devacottah, with its branch at Sivaganga has organised itself on banking lines and has sets of rules and regulations pertaining to bills, deposits, loans and advances and other business. Such attempts at Joint-Stock Banking by indigenous bankers are encouraging indeed. The dormant capital in the rural areas could be easily tapped through the indigenous Joint-Stock Banks. Loans are given on the pledge of goods and a small fee is charged for warehouse facilities. In this connection it is important

to note that for the creation of an internal bill market the widespread establishment of licensed warehouses is essential. The importance of warehouses is discussed at length in the chapter on Marketing finance. Here it is enough if we consider the possible help that indigenous bankers can give in the formation of those warehouses. Indigenous bankers owning large resources should finance the construction of godowns in marketing centres, in towns and in important village centres where the village shandy meets. This will increase not only their banking business but the bills with the warehouse receipts attached to them and with the signature of the private banker will form an excellent agricultural paper, capable of being discounted directly with the Reserve Bank. Provision of good warehousing facilities is the *sine qua non* of the development of bill market. Besides the increased use of bills by the establishment of warehouses, agricultural paper could be created by the indigenous bankers in respect of advances granted to the ryots in the matter of raising crops or in small scale production of goods. Above all the high stamp duty on hundis should be abolished in the first instance to popularise bills and to facilitate their development. At a later stage when the bills have sufficiently gained popularity, a stamp duty at a lower rate than is prevalent at present could be levied. Thus the new indigenous banks can throw open the doors for the Reserve Bank to enter into the open market and control credit. The establishment of new indigenous banks will induce other indigenous bankers to combine and strengthen their resources. There will not be any competition from co-operative credit societies, for there is a great scope for the two kinds of credit institutions to thrive side by side. As Dr. Jain says, the creation of new indigenous banks will not be overlapping the development of the old joint-stock banks. For the latter have not penetrated into the rural areas by spreading their branches into the interior.

Some other suggestions for the future development of indigenous bankers are the formation of indigenous bankers into co-operative societies, the formation of discount or acceptance houses by them or serving as local agents of financing joint-stock banks in towns, on the 'kommardit' principle. Mr. Manusubedar suggests that they could act as guarantors to land mortgage banks. One cannot conceive of indigenous bankers forming themselves into co-operative societies and yet act in the best interests of the borrowers. As for the amalgamation of indigenous bankers into discount houses or acceptance houses, the suggestion is very commendable. Not only can the

indigenous bankers be free from the necessity of divorcing their business from banking but they will supply an important link in the Indian money market. The aim of such discount houses should be to develop on the lines of the London discount houses where bill-broking is a special feature that needs close study. The establishment of banks on the 'kommandit' principle will not be possible in the case of indigenous bankers because they are rivals to joint-stock banks. The restriction of the liberties of indigenous bankers will be far greater than under any other scheme of reform and surely they will not favour such proposal.

It has been suggested that the Mahajans should form themselves into a class of guarantors to land mortgage banks. The guarantor is to guarantee to the bank the repayment of the debt and is responsible for the final recoveries. It is said that the indigenous banker would undertake to be the guarantor because prompt repayment of the money lent out by him to the ryots would be easily got by the issue of land mortgage debentures. But it must be noted that the moneylender and the indigenous banker are not for the prompt repayment of the money by the borrowers. They are prepared to wait till such times as the money lent out equals the value of land and in the end they rush to the court for foreclosure of the debtors' lands. Hence one cannot expect the Mahajan to leave off his profession and become the guarantor of the land mortgage banks. Moreover, the additional expenses incurred by the existence of the guarantor would result in a rise in the rate of interest to the borrowers and it is not conducive to the welfare of the agriculturists. In the Madras Presidency the rate of interest charged by the co-operative land mortgage banks to ultimate borrowers is 5½%, whereas the rate of interest charged by the land mortgage banks under a scheme of guarantors will be double. Above all, it is doubtful whether the private bankers themselves would undertake this business of guaranteeing repayment of loans in preference to their independent business.

The future of the indigenous bankers lies in their forming themselves into joint-stock banks and regulating their business and thus ultimately enjoying the benefits of direct rediscounting facilities from the Reserve Bank. Those who do not want to modify the essential character of their business may become bill brokers in a market abounding with first class trade and agricultural bills. They may also form themselves into discount houses and enjoy the benefit of direct relationship with the Reserve Bank.

**Nidhis and Chit Funds*

Besides indigenous bankers of the various types discussed there are some indigenous banking institutions in the Madras Presidency known as Nidhis and Chit Funds. When in the 19th century sound and continuous credit had been secured in Europe for men of limited means by popular co-operative credit banks of several classes started by Schulze-Delitzsch and Raiffeisen, in the Madras Presidency at the same time the problem of cheap credit to the small folk—the peasants—was tackled by a type of indigenous banking which developed from the *kuttu-chit* system prevalent at the time. They are the Nidhis or loan societies.

The leading idea of the Nidhis is mutual credit. A certain number of members form a company under the Indian Companies Act and attract other members. Monthly subscriptions are paid for a given term (45 or 84 months usually) at the end of which the fund is closed and profits are divided. Members may also get loans from the Society repaying them with interest by monthly instalments. Though these societies are modelled on the Building Societies of Great Britain and the United States of America, they must have developed from the indigenous practices, viz., the Kuttu-Chit system. But the authors of the Madras Banking Enquiry Committee are of a different opinion. They say: "Nicholson has in his report grouped together Chit funds and Nidhis. They should, however, be regarded as quite distinct and they have a definitely different origin. The Nidhis or funds have had a definite gravitation towards the permanent bank receiving deposits and making loans, while the Chit fund has remained as an association in which members subscribe and lend the subscription among themselves, though surplus cash may be lent out as temporary investment at the discretion of the Nidhi. Though mutual credit is the essential feature of the Kuttu-chit fund system also, it may be legitimately argued that the one is a development of the other.

The Chit system is based upon association, confidence and honest dealing. According to this simple system a number of men in a village unite to subscribe a small sum each, usually a rupee or a multiple of that, to the promoter called 'Karaswan' for a specific period. At each period—generally at the end of every month—when collections are made, the collection so made is given to one of the members of the Chit. Different

*A major portion of the section is reproduced from Nidhis or Loan Societies of Madras submitted by Dr. B. V. Narayanaswami Naidu to the Indian Economic Conference 1937.

methods are adopted to decide the member who is to be given the amount. The original system is the head and tail system. Lots are drawn and the winning lot draws the pool. While the same number subscribe for the next months, the winner drops out. Here the tail is the less fortunate; it loses by way of interest. To equalise benefit, the winner gets the amount less a deduction of interest and the deduction is divided among other members who have not won the pool. This is the discount system. A third system is that of auction. This sought to obviate the difficulties of the needy who may not win the pool. By this system the pool is put up to a Dutch auction and the highest bidder of discount receives the amount, while the discount is divided among the rest as bonus. Care is taken to see that the benefit of the bonus does not extend to those who have already received the pool. The person who receives the amount executes a pro-note or mortgage to the foreman and drops out of the next auction. In cases of default penal interest is charged. Besides, there are shandy associations in which small traders unite their small subscriptions on market day. Chits are run on commodity basis also. In the absence of saving institutions and facilities for cheap credit, the Chit system was of immense benefit to the people. The system not merely promoted thrift among the subscribers but also enabled them to get lump sums for purchasing land, jewellery, etc., for marriages, for trading operations and for settling prior debts.

These advantages must have been realised by those who started about the middle of the 19th century the Sudder Court Fund which seems to have been inspired by the Chit Fund System. Realising that they were ruined by the usurious rates of moneylenders certain officials of Madras started a fund, similar to the Chit fund to borrow money at equitable rates whenever they needed. The Fund was a terminating society with a seven years' period. Loans were granted for 84 months at the end of which period the fund was to be wound up and share repaid at Rs. 102-8-0 for Rs. 84 received. From the monthly collections loans were granted to members at $6\frac{1}{4}\%$. Penalties were levied for delay and loans repayable by monthly subscriptions were usually advanced on mortgage and the order of granting them was determined by lot. The Fund soon became permanent and a new series of subscribers was admitted and shares opened every month with the result that there was a continuous influx and efflux of members. This is the first instance of a Nidhi that we hear of in Madras. Other features of the chit fund, namely the putting up of their loans to a Dutch auction, the issue of loans by lot in addition to the terminating character of the original fund were also borrowed by some Nidhis. So the statement of Nicholson that

'these societies might almost have been developed from indigenous practices, viz., from Kuttu-Chit system' cannot be brushed aside.

But at the same time it must be admitted that the Nidhis of Madras bear a striking resemblance to the Building Societies of Great Britain which are practically Building and Loan Associations. Their purpose is to raise by the subscriptions of the members, as the Nidhis do, a stock or fund for making advances to members upon security by way of mortgage. Most important among the methods adopted by these societies are the association of varying numbers of members, periodical payment of share subscriptions by members, borrowing from outside up to 2/3 of the amounts advanced on mortgage, the lending out of these funds to members, and of their repayment by instalments. While these features are common to Nidhis and Building Societies, the latter have a special feature in that they are governed by an Act, namely, the Building Societies Act of 1904. They are incorporated by registration by the Registrar of Friendly Societies who is given extensive powers of control. There is no evidence, however, to prove that the main principles of the Building Societies were introduced into Madras and were borrowed by the Nidhis.

To continue the history of the Nidhis in Madras, it may be pointed out that the Sudder Court Fund continued prosperous till 1872 when many others were started in imitation of the original. The growth of a large number of mushroom Nidhis at this period led to the abuse of this institution. Instead of being guided by the motives of thrift and mutual benefit the system began to be used merely for securing high profits to the promoters. Towards the end of the year 1872 the decision of the High Court that the Nidhis had no legal status since they were not registered under the Companies Act led to the collapse of many societies. They could not go to court and since debtors refused to pay, many had to go into liquidation. Very often unscrupulous and incapable men replaced honourable promoters, high salaries were paid to directors, promoters, and staff; impossible profits and splendid promises were dangled before the greedy eyes of subscribers, and when a good number of dupes had been hooked in, the fund closed its doors. These sham societies were nicknamed Lubbock Funds. While in 1887 there were 269 societies, in 1892 there were only 135. During the interval many societies sprang up and vanished, the numbers that disappeared being not less than 260.

No doubt that Nidhis of to-day are working on better lines but there has been no appreciable increase in their number. In 1929 there were only 228 Nidhis in the Madras Presidency with a paid up share-capital

of Rs. 2,49,09,533. Definite figures are available only for 218 Nidhis; these have a total paid-up share capital of Rs. 2,44,56,621; deposits running to Rs. 1,16,16,695 and reserves amounting to Rs. 31,94,926. Curiously enough more than half the number of Nidhis (123) are in Coimbatore town and in the surrounding villages of the district. These Nidhis have developed in the course of a long period of 70 years and they differ from one another so widely that there seems to be little in common between the extreme types. In order to check possible abuses, legislation is definitely called for.

In general the objects of the Nidhis were to save members from the evils of usury, to stimulate thrift, to facilitate savings, to relieve members from old debts and to provide for accumulation of funds for special purposes like domestic ceremonies, house-building and repairs or the purchase of jewellery, etc. Salaries and profits for the promoters must also have been a secondary, though unexpressed, object. The receipt of deposits is only a later feature of the Nidhi system; though in some Nidhis of Coimbatore deposits are larger than the paid-up share capital; in most they are small, and in some, altogether absent. For example in 1929 the Tanjore Permanent Fund had 23 lakhs of share capital and current deposits amounted only to Rs. 3 lakhs. The Tanjore Fund does not receive fixed deposits. So these societies are less banking institutions than mutual loan associations. In Coimbatore, however, some societies are indistinguishable from joint stock banks.

Turning to methods of business we find that the clientele of the Nidhis is usually officials, traders, merchants, agriculturists and rarely the lower classes. Figures given below show the percentage in each class for certain Nidhis in 1929.

	Tra- ders	Govern- ment and Railway officials	Dho- bies	Railway workers and lab- ouring classes	Weavers and Agricul- turists	Building contrac- tors
Coonoor Nidhi	40	20	7½	32½		
A. B. K. Nidhi, Avanashi					100	
Ootacamund Nidhi					90	10
Janopakara Nidhi, Coimbatore	60	5			35	

In the Tanjore Permanent Fund a special feature is that agriculturists form an important class who get accommodation in the Nidhi. The A.B.K. Nidhi lends cent per cent to agriculturists. The loanable funds proceed chiefly from the subscriptions of members since they rarely get accommodation from other banks. Therefore their total working capital is about Rs. 4 crores made up of a share capital of about 2½ crores and deposits of 1½ crores.

Though the original Nidhis did not accept deposits, at present some have restricted it to members—thus strictly conforming to the principle of mutual association—while most take them from any one. In the mofussil, deposits are mostly for large sums by a few persons; they are not the petty deposits of the masses. A case in point is a Nidhi at Villupuram where the deposits of a few thousands of rupees are generally those of the money-lenders. There are cases in Coimbatore where the deposits are five times the share capital. The Coimbatore Janopakara Nidhi, for instance, had in 1929 a paid up share capital of Rs. 1,32,500 while deposits amounted to Rs. 5,55,835.

In all these Nidhis the rate of interest is not uniform; it ranges from 2% on current deposits to 8% on fixed deposits. The following table shows the rate per cent in some Nidhis:—

	Current	Temporary	Fixed	Savings
Nellore Permanent Fund	2	4½-5½	6	..
Egmore Benefit Society	4	.	6	6
Tanjore Permanent Fund	2	..	..	..

Generally speaking the securities offered by the Nidhis for deposits are unsatisfactory and even non-existent. The direct guarantees to the depositor are the status of the society, the reserve if any and amounts due on shares. In the absence of substantial reserve funds very often loans have to be attracted at high rates when a large number of shares matures at the same time. No doubt when societies lend only on mortgages and very little on personal security the depositor is more or less sure not to lose his money. But the confidence of the depositor depends ultimately on solid guarantees, on a large reserve fund securely invested rather than on high rates of interest. The Janopakara Nidhi at Coimba-

tore has no sufficient security for the five lakhs of rupees deposited with it. The Reserve Fund amounts only to Rs. 96,725. The secretary of the Nidhi contends that in case of a run, money will be recovered from those of the customers who have borrowed sums payable on demand and in addition from the 2½ lakhs advanced on the security of jewels. This will undoubtedly involve delay; and the only sure guarantee for depositors is the presence of a large reserve fund. Considering the fact the Nidhis are mutual benefit associations they should, as far as possible, avoid taking deposits from outsiders.

At the most the reserve amounts of all the Nidhis in the presidency together amount to Rs. 35 lakhs while the working capital comes to about 4 crores, and the deposits to 1 1/5 crores. Every year only a very small percentage is taken to the reserve and even this is often broken into and divided at the end of three or four years. Very often the reserve is laid out in charitable investments or in ordinary loans which involve great risks. This unsatisfactory state of affairs must be ended by setting apart a substantial portion of the profits as reserve to be deposited in gilt-edged securities.

The money raised by subscriptions and deposits, and, in most cases, the reserve funds are lent out chiefly to members. Nicholson says that in Madras mortgages and pledges of jewellery or government paper are preferred to personal securities while in the mofussil the reverse is the case. In Madras personal distrust and facilities for bankruptcy, a good system of title and ease in recovery of debts make mortgages preferable; while mortgages are avoided in the mofussil because of the difficulty of titles and the revenue law for the collection of arrears. According to the Madras Banking Enquiry Committee Report, the Nidhis in Coimbatore lend a large percentage of the loans on personal security. But loans on goods in godowns, on jewellery, on immovable property, on share capital and on deposits, though small, are quite common.

In Coimbatore Nidhis, the rates of interest on personal security range from 11¼% to 18%, on loans on share capital from 7½% to 12½%, on deposits from 7½% to 12%, on jewels from 8¼% to 15% on goods from 2% to 15% and on immovable property from 9% to 12%. The Tanjore Permanent Fund lends on shares, on immovable property and on jewels. No personal security is recognised. Loans are given on the amounts actually subscribed at 6¼%. These are discharged automatically at the end of the period when the shares mature. Special loans on immovable property and jewels, for Rs. 100 and Rs. 250

respectively are charged at the rate of $7\frac{1}{2}\%$ per annum. A portion of the loan and the interest are repayable monthly in the form of share subscriptions, while the major portion of the loan is paid at the borrower's convenience within the time fixed for the maturity of the shares. The rate of interest charged by this Fund is lower than that levied by the primary Co-operative Societies. Lending on produce, except on groundnuts which is liable to seasonal changes, is being started. The Nidhis have no godowns and the produce is stored in the borrowers' godowns and sealed.

Generally there are three classes of loans though in some Nidhis (e.g., the Madura Permanent Fund) there are four classes and in some others only two. The first of the three classes consists of regular or permanent loans to subscribers on mortgage, on pledge, on government paper, on paid-up subscriptions and on personal security. Such loans are repaid as in the Building Societies. The second class of loans is the temporary or extra loans to members or outsiders for short periods of three to six months repayable in lump. The third class consists of small lot loans of Rs. 5, 10, or 20 repayable in one to three months. A special feature of the Tanjore Fund is the grant of loans to agriculturists for long terms repayable at the borrowers' convenience. Interest should be paid regularly; but in case of default the penal rates charged are excessive.

Loans are granted in these societies according to priority of application. Some adopt the auction premium plan while others simply decide the question by lot. In most Nidhis, especially those in Coimbatore, there is of late a wide difference between the lending and borrowing rates. It would be of great benefit to agriculturists if loans are made repayable at the time that they sell the produce.

In the original societies profits arose because of late payments by members. In the Nidhis of the later period the difference between the rates of borrowing and of lending makes for profit. This difference in rate militates against the basic principle of the Nidhis viz., mutual benefit since the bulk of the profit goes to non-borrowers, directors, secretaries etc. The first principle of mutual association demands that profits should be low and that as far as possible they should return to the members. To some extent this can be secured by diverting the major portion of the profits to a reserve fund.

Theoretically the Fund is administered by the members in the General Meeting. They select the directors, auditors, secretaries etc., who are the only persons cognizant of the business and of the affairs of the Fund. The principle of 'one man, one vote' is followed as in popular banks and credit unions of Europe. The power given to the mass of members tends to prevent any diversion of funds of the society towards speculation or private interests. The stock vote is bad in principle as it gives the preference to capital over brains. In certain societies the stock vote is, however, adopted; the evils of the system can be minimised if a maximum of five votes is fixed for those who hold above a certain number of shares. This will, in addition, enable experienced members to prevent rash and negligent resolutions. The directorate consists of the most experienced men who retire by rotation but who are eligible for re-election. They are paid either a share of the profits or honoraria fixed from time to time. In Europe private businessmen with scanty leisure give gratuitous service to such societies. It was so in the earliest societies in Madras. Emoluments increased gradually resulting in a scramble for power and in the influx of inefficient directors. Though in most societies they get a good share of the profits, only sitting fees are given in the Egmore Benefit Society. Restrictions from borrowing like other members are rarely found. The work of examining accounts and securities is usually done by permanent and special auditors. In most of the Nidhis while the former are usually some one of the directors themselves, the latter are professional men who may or may not be shareholders. The special auditors are appointed annually. Since the efficient working of a Nidhi is dependent very much on good auditing, care must be taken to appoint independent and able auditors. The secretary who is really the best paid is the manager. He commands large powers and influence and in most cases he is the chief promoter of the fund. Efficient working of a fund is in no little measure due to the ability and integrity of the secretary; deficiencies in him have led to the liquidation of many a fund. The valuation of securities and their periodic verification are done by appraisers and trustees. Reports and balances are periodically drawn up. Co-ordination and central control are needed to see that reports are properly drawn up and that the articles are duly observed.

The Nidhis of the Madras Presidency have been registered under the Indian Companies' Act of 1923. The Nidhis differ from other banking institutions registered under the Companies' Act in that their share capital can be borrowed on, paid in instalments and withdrawn altogether

at the end of a definite period. The principal sections of the Companies Act which are a source of trouble and difficulty to the Nidhis are sections 55, 57, 58; 92; 93; and 101 to 104. Sections 55; 57; and 58 provide against the reduction of share capital without sanction of the Court. The shares in a company cannot be withdrawn. Since the retirement of shareholders by lapse of time and the reduction of share capital everyday are features of the Nidhi, the decision of the High Court that the withdrawal of share money is illegal and that retired share-holders are liable for debts greatly upsets the working of many Nidhis. Section 92 and 93 relate to the prospectus of the company to be filed with the Registrar before it is issued. The Nidhis get fresh subscribers for shares often and they are put to the trouble of submitting their articles daily to the Registrar. Sections 101 to 104 relate to allotment of share capital. Allotment can apply only to fixed capital while the shares of the Nidhis are fluctuating. The Nidhis thus differ from Joint Stock Banks in many important respects. Some of the Nidhis have so amended their bye-laws that the share capital is payable in a lump sum. Some have disallowed borrowing on share capital and some have abolished the rule that share capital is withdrawable. But most of the Nidhis retain their essential features. As they are profit-making institutions the Nidhis cannot be registered under the Co-operative Societies Act. The Madras Banking Enquiry Committee observes in their report, "The fewer different kinds of banks and institutions there are the easier will it be for the general public to get to know the details with which they must be familiar if they are to take the fullest possible advantage of the facilities provided." With this object in mind they suggest that the Nidhis should alter their features so as to conform to the Indian Companies' Act; such uniformity does not exist even in England where different types of institutions are regulated by the Friendly Societies' Act, the Building Societies' Act and other Acts. Having regard to the services that the Nidhis are capable of rendering, far from stamping them out of existence, they should be fostered by suitable legislation. The Central Banking Enquiry Committee too hold that indigenous institutions like Nidhis and Chit funds deserve to be encouraged.

Properly directed and controlled, it is evident that the Nidhis of the Madras Presidency are capable of becoming centres of great usefulness to the needy majority of the Indian population. As originally conceived the Nidhi sought to encourage co-operative endeavour, to stimulate thrift and inculcate habits of punctuality and careful thinking ahead,

in the minds of its subscribers. Small savings were duly cared for; and credit was easy, since borrower and lender were well-known to each other and repayment easier because of the monthly instalments. To these advantages must be added the fact that the Nidhis are the results of indigenous activity and adapted to the habits and needs of poor folk.

What the Nidhis need to-day is reform and reorganisation; a widening of their sphere of usefulness, a strengthening of their economic position, a stiffening of the articles to make them sound agencies of credit and a co-ordination and central direction of their credit so that they may develop into useful units in the scheme of rural credit which is so badly needed to-day by our indebted peasants and workers. Reorganisation of the Nidhis should take the form of curtailing the interest of the Secretary in the Nidhi by making him a paid officer with no share in directing its activities except that of offering expert advice, reducing the emoluments of directors, making them honorary if possible and of tightening the control of the Nidhi on lending by keeping a watchful eye on the way in which the money borrowed is actually spent. It would be desirable if the Nidhi supervises the settling of the debts of the borrower with his creditors when the loan is advanced for that purpose. The sanction for the right working of a Nidhi must proceed from enlightened opinion of the subscribers and for this purpose uniformity and even some federal unity may be secured among the various Nidhis by legislation. When a society shows good and efficient work it may even be allowed to float debentures or call for deposits at reasonable rates. Personal credit is important in a country of small holdings like ours and if it is not abused will be a useful method of financing men of limited means. No agency is better calculated to regulate and utilise personal credit than the Nidhi system. The Nidhis can be developed to become healthy centres of economic and social progress.

Chit Fund

Chit Associations are perhaps the most ancient method of organised banking common to all countries. Hence every endeavour should be made to regulate these associations by curbing the tendency of gambling and speculation and by promoting sound helpful village associations where members by mutual knowledge and confidence will develop mutual trust and help. A description of the various types of Chit Funds has already been given when discussing the nucleus of the Nidhis. These associations are common in Malabar, and Tamil Districts especially, Tinnevely, Madura and Ramnad.

In such a system of Chit funds there are a large variety of mal-practices. In some cases these chits are run definitely as lotteries and thus go against sound principle of banking. But under the system of drawing by lot, those who are badly in need of money may be forced to wait for a long time. Moreover, the winner who has no immediate need for money has no facilities for investing the money. These chit funds encourage only small savings. The absence of investment facilities will lead to unproductive expenditure. Though in the auction chit system, the bidder of the highest discount gets the money, the discounts in the initial stages are as high as 60%. This is nothing but gross usury. These associations are formed by speculators and they not only take the first pool but also commissions. As soon as they draw the pool many of these managers are anxious to close the chit and thus free themselves from these associations and the dearth of the prompter results in endless difficulties. The profits of the chit funds are generally derived from heavy penalties for delay in the payment of contributions. This is antagonistic to the true principles of co-operation. One of the chief defects of the System is that once a member draws a pool, he is interested in ending the association. There is a great incentive for fraud and deception.

Any attempt to enlarge the associations and extend their operations will weaken the organizations, whose main strength lies in compactness, close personal knowledge of each member and mutuality of interests.

It is very necessary to keep up and foster these associations in places where no other credit associations of a better variety, e.g., Co-operative Societies, have superseded them. But they must be controlled and organised even though there may be a diminution in the number of chit funds as a result of such control. The chit funds should first be compulsorily registered at the office of the notary public and the aims of the fund and the bye-laws should be submitted to the officer. The village panchayats should decide all the cases arising out of chit funds in their areas. Winners of pools should be acquainted with the fact that their savings could be invested with the Co-operative or Government savings banks. Special types of chits for the purpose of marriage expenditure, house building etc. should be popularised.

To place the Nidhis and chit funds of the Presidency on a secure basis and to regulate their working a special Act is urgently necessary. If properly reorganised these societies will prove to be of immense benefit to the agriculturist. Village societies must be built with a membership practically co-extensive with the population of the place so that

it may take up within its ambit all useful forms of village activity. Small villages may group together to form a Nidhi. For this purpose areas of operation for each Nidhi may be delimited. A similar method can be pursued even in the case of towns.

As Nicholson rightly observed there can be no more philanthropic activity for public-spirited men and women in India than to carry the spirit of Schulze-Delitzch and Raiffeisen into the villages of the country. Selfless work in little-known places, patient attention to the apparently petty tasks of village organisation, sacrifice away from the limelight, these are the things needed for building up a system of sound rural credit. This is infinitely more difficult than passing an act of legislature wiping off the debts. Debts once wiped off may yet return unless thrift and prudence are on the watch. But if a spirit of self-help is induced in the people, if they are made to realise that their salvation lies in joint endeavour on their own part, the effects of that change are sure to be enduring. And in bringing about this change of heart among the labouring classes, no better method of credit can be devised than the indigenous system of *Chits* and *Nidhis*.

CHAPTER 8

GOVERNMENT LOANS TO THE AGRICULTURISTS

General

Mr. Sathyanathan has made a rough calculation of the amount of credit supplied by Government to the agriculturists. While the money-lenders supplied 93% of the total credit and Co-operative societies 6%, the Government supplied only 1% of the total credit. In the absence of any other estimate of the supply of credit by different agencies, Mr. Sathyanathan's figures may be taken as correct because his figures are based on the investigation of 141 villages in the various districts of the Presidency. It is quite conceivable that Government lends only 1% of the total rural borrowings, for the state can neither advance large sums nor can manage enormous business. Each loan means an enquiry into the status of the individual and the security he could offer and this is risky to a degree because it is impossible to enquire without immense cost and loss of business. What the Government can do to help the agriculturists is to introduce legislation creating special institutions or enabling the central banks to open special departments for the supply of credit to the agriculturists. The Agricultural Mortgage Corporation in England, the Rural Credits Department of the Commonwealth Bank of Australia established in 1925, the Long Term Mortgage Department of the New Zealand Bank, the Land and Agricultural Bank of South Africa and the Farm Credit Administration of the United States of America are some instances of Government aiding agriculturists indirectly. In India also the Co-operative Credit Societies Act and the Land Mortgage Bank Act and the creation of the Agricultural Credit Department of the Reserve Bank of India are instances of the indirect help by Government to agriculturists. But as banking has not developed very much and as the co-operative societies have not touched most parts of the villages Government has stepped in to finance the ryots directly. It is, however, necessary that the Land Improvement Loans Act and the Agriculturists' Loans Act for the relief of indebtedness should be used only to relieve the poor ryots who are unable to get credit from the banks. We shall discuss presently how it

is as difficult for the poor ryot to get a loan from the Government as it is difficult to get a loan from a bank.

History of Government Loans

Prior to 1803 the practice of granting loans to ryots out of public funds was regulated by executive orders. These orders did not prescribe the procedure to be followed in such cases. This system was discontinued in 1856 and advances were strictly confined to cases of emergency and real distress. In 1871 the Government of India enacted the Land Improvement Act defining the improvements for which state loans could be granted, providing for the security of a first charge on the land improved and laying down the conditions on which advances were to be made. The Famine Commission observed in 1881 that the intention of the Act failed and that there was a general reluctance to make use of its complicated provisions. The Land Improvement Loans Act of 1883 was passed with a view to remove the obstacles and simplify the procedure. In 1884 the Agriculturists' Loans Act was enacted for the relief of distress, the purchase of seed or cattle or any other purposes connected with agriculture. In 1916 the Director of Agriculture was given certain powers for granting loans for the erection of pumping installations and special rules were framed under the Land Improvement Loans Act to regulate such grants, subsequently the Director was authorised to grant loans for the purchase of agricultural machinery or plant and in 1918 special rules were framed. In 1920 the Director of Industries to whom the pumping and boring operations were transferred was also authorized to grant loans under the special rules. In 1920 special rules under section 4 of the Agriculturists, Loans Act were framed to grant loans for the purchase of seed grains, cattle etc., to members of hill tribes in the Agency tract. From time to time rules were framed to secure greater simplicity and elasticity in their working. In 1930 a Committee was appointed to devise methods for further simplifying the procedure and to devise measures for prompt collection without undue harassment of the members. The rules were amended on the proposals of the Committee in 1933. In 1935 the Agriculturists Loans Act was amended so as to include grant of loans for relief of indebtedness. The rules framed thereunder were entirely recast in September 1938 in conformity with the *Madras Agriculturists' Relief Act*.

The Land Improvement Loans Act

Loans under the Land Improvement Loans Act are granted to any person for the purpose of making improvement which adds to the letting value of the land. According to the Taccavi Manual the work included "(a) the construction of wells, tanks and other works for the storage, supply and distribution of water for the purposes of agriculture, or for the use of men and cattle employed in agriculture; (b) the preparation of land for irrigation; (c) the drainage reclamation from the rivers or other waters, or protection from floods or from erosion or other damage by water, of land used for agricultural purposes or waste land which is cultivable; (d) the reclamation, clearance, enclosure or permanent improvement of land for agricultural purposes; (e) the removal or reconstruction of any of the foregoing works, or alteration therein or additions thereto; and (f) such other works as the Local Government may from time to time, by notification in the local official gazette, declare to be improvements for the purposes of this Act."

No limit is fixed for the amount of loan that could be taken under this Act. Loans are repayable by equal annual instalments discharging both principal and interest. The number and amount of annual instalments are fixed with due regard to the probable durability of the improvement to be effected with the loan, to the value or sufficiency of the security given, to the convenience of the borrower and to other circumstances. The maximum period of loan fixed for the construction of the wells is 30 years, for the installation of oil engines and pumps when the security is landed property, machinery or personal security, 20, 5 and 2 years respectively and for other purposes 20 years.

The Agriculturists' Loans Act

Loans up to an amount of Rs. 1000 could be granted for the purchase of seed grains, cattle and stallions required for breeding purposes or the rebuilding of houses destroyed by fire, flood or storm. Loans up to Rs. 2,000 could be granted for planting coffee, tea, and pepper and some fruit-yielding trees. Loans for other agricultural purposes—e.g., "purchase of fodder for domestic and agricultural cattle, construction of cattle sheds, purchase of manure, erection of sugarcane mills, indigo vats and such like appliances for dealing with raw agricultural produce, erection of double mhots and other contrivances for raising water, the acquisition of lands for house sites and the building of houses thereon in villages declared by the Collector to be congested and the building of

houses by cultivators in tracts newly made available for occupation and cultivation"—are granted up to a limit of Rs. 2,000. Loans up to Rs. 2,000 could be given for the relief of distress to enable the owners and occupiers of land and their dependents to subsist until the ripening of next harvest. The period of time for the repayment of loans is:—For the purchase of seed and manure—1 year. For the purchase of seed which cannot yield a return in a short period—6 years. For the relief of distress—3 years. For any other purpose —10 years.

Certain Rules of the Acts

The rules framed under both the acts are more or less identical with changes only in the period of loans, amount and security. The granting of loans, collection and administration are the same under both the Acts. As in the Land Improvement Loans Act, loans under the Agriculturists' Loans Act are repayable in equal annual instalments. Under the Land Improvement Loans Act the number of instalments should not be less than ten. Loans should be applied for to a revenue officer not below the rank of a revenue Inspector. The amount of loan that could be sanctioned by the Deputy Tahsildar, the Tahsildar, the Deputy Collector, and the Collector and the Board of Revenue is fixed. In the case of loans for the relief of distress, payments are to be made monthly or every two months. Loans for the purchase of sheep or goat are not encouraged because it would be difficult to watch the due application of the loans as the borrower may show for inspection animals of any herd as being purchased. During the survey in Cuddalore Taluk reports reached the writer of cases of duping the inspecting officer by producing bullocks and carts which had been bought long before the loans were sanctioned. But this is not so difficult to check as sheep or goat. As poultry farming is not directly beneficial to agriculture loans are not granted for this purpose. The amount of loan advanced is to be regulated by the agricultural requirements of the borrower with due regard as to the adequacy of security offered. The amount granted is to be just sufficient for the purpose for which it is required. It is often better to refuse a loan than to sanction in part only. An additional loan may be granted for excess amount of work as part of the original loan. Where the available loanable funds are inadequate to meet all applications, they are not to be dissipated in inadequate grants to all. The aim is to make adequate grants to a smaller number, preference being given to those who can most fully and beneficially employ the loans and repay promptly. Appli-

cations for loans are not to be rejected on frivolous and insufficient grounds. They can be rejected only if the application is not bonafide, if the applicant is not solvent, if the security offered by the applicant is not sufficient, if he is not willing to take a loan for a correspondingly reduced amount and if the period when the loan could be usefully spent is over. Another principle is that applications for loans are to be dealt with as expeditiously as possible so that the money advanced may be effectively utilised. No delay in loans should be allowed after a loan order has been issued. If any person who receives the loan fails to perform any of the conditions on which it was issued, the officer granting the loan may immediately proceed against the person or surety and his property for the unpaid balance or interest as arrears of land revenue. Government loan is the first charge on the land to be improved and it should be sold free of all encumbrances irrespective of the sale held by the court. When loans are granted to members of a village community or to persons on their joint responsibility, every attempt is to be made to realize the amount from each borrower and joint liability is to be enforced only as a last resort. If the work for which a loan is granted fails from extraneous causes, remission is to be sanctioned at any period between the grant of the loan and the due date of completion of repayment. Works for which loans are granted are to be inspected often. The final completion of work must be a substantial construction and should outlast the period over which the repayment is spread. Tables 37, 38 and 39 and tables 44 and 45 give an account of the advances under both the Acts from 1918-19 to 1937-38. Figures of advances under both Acts were given separately till 1931-32 but the Board of Revenue are supplying only consolidated figures from 1932-33. It is very strange to note that loans under both the Acts began to fall steeply since 1928-29 and has not risen even in 1937-38. It is during the depression that the poor agriculturists require help from the Government and the position of advances reveals a slackness in the grant of loans. This may be attributed to the fall in the value of land and the fall in the return from the land since the depression and the general nervousness of the officers to grant loans.

The nature of the security offered should exceed by at least one-third the amount of the loan applied for. If the value of the security does not reach that level, collateral security should be produced. Collateral security may consist of other lands belonging to the applicant or land belonging to other persons who are willing to become his sureties or of personal security when the amount covered by such security does not exceed Rs. 250 or 25% of the loan or of a combination of all or any of

the forms mentioned above. The primary security under the Land Improvement Loans Act is the land that is to be improved. In the case of Agriculturists Loans Act the collateral security means the security offered by sureties. Movable property and unenfranchised inam lands are not accepted as security. Where the land to be improved forms the security, it is the value in the unimproved state that should be taken into consideration. In the case of sinking or deepening or improving wells, the increased value is taken into consideration if there is a reasonable prospect of the well being a success. Security of land is valued with reference to the market value of similar lands in the neighbourhood. Other rules protecting the interests of the government against the encumbered lands, rights of Hindu widows and minors are laid down. If the value of land falls as a result of fall in prices and thus security for the loan becomes insufficient, no additional security is to be demanded except in certain cases where fresh security within reasonable time should be furnished.

The rate of interest on loans introduced in 1898 was 5%. This rate was enhanced to 6¼% from 25th June 1907, to 7½% from 1st April 1921, reduced to 7¼% from 1st April 1926 and 6¼% from 1st April 1929 and enhanced to 7½% from 1st April 1931. The rate of interest was reduced to 5½% at the time of the survey conducted in the Cuddalore Taluk. Interest on additional loan is to be charged on the same rate at which interest on the original loan is charged. If the rate of interest at the time of additional loan is lower, then the applicant can apply for the additional loan as a separate loan.

Investigation of some loans

During the investigation in Cuddalore Taluk the writer had an opportunity of studying the application for taccavi loans and the enquiry made by the Revenue Inspector. Nearly fifteen applications for loans were received during the month of May and long after the survey was over the writer was informed that only two loans were sanctioned. The reason for rush of applications is due to the shrinkage of credit consequent on the agriculturists' Relief Act of 1938.

Some cases of application for loan may be examined here. (1) Ramaswami Naidu of Ellayappanpettai applied to the Tahsildar of Cuddalore on 1-5-38 for a loan of Rs. 150 to buy a cart and cart bulls. But in the statement filled up by the Revenue Inspector he said that the purpose of the loan was to buy only bulls. The Revenue Inspector received the

application on 14-5-1938 and began inspection of the lands on 19-5-1938. The ryot mortgaged some joint patta lands. The ryot, the Revenue Inspector, the village officer and the writer went to identify the lands and assess the value. The fields were found to be situated at the tail end of the 'Ayacut'. Naturally the value of such wet lands would be lower than those near the lake. The Revenue Inspector explained to him the impossibility of granting loans on lands held on joint patta. The ryot could not first understand the technical point raised by the revenue officer but after two days came to the officer and told him that he would mortgage his lands only, and accepted to take any amount sanctioned. Two separate statements were prepared by the karnam and the Revenue Inspector after full enquiry. According to the karnam's statement the value of an acre of land in the area where the applicant's land was situated was fixed at Rs. 225. For the past three years no lands nearby were sold. The village officer's statement was completed on 9-6-'38. The Revenue Inspector in his statement said that there was no demand for lands in the village and that the fields were not commanded by wells. The fields were situated far away from the tank and taking into consideration all facts he came to the conclusion that the village officer's estimate of Rs. 225 an acre was high. His own estimate of the fields (1.72 acres) mortgaged was Rs. 150. The applicant already borrowed from the Government Rs. 200 and he had to pay only the last instalment of Rs. 30-15-8. Though there was provision for accepting personal surety no persons came forward to stand as surety in the case of government loans for obvious reasons. The Revenue Inspector recommended that a loan of Rs. 75 could be granted and the Inspector believed that good cart bulls could be purchased for that amount. The Revenue Inspector filled the statement on 15-6-'38 and sent the application to the Tahsildar on 17-6-'38.

(2) Adilaxmiammal applied for a loan of Rs. 150 on 25-4-1938 for the purchase of cart and cart bulls. The lands produced as security were 1.96 acres. The Tahsildar, received the application on 2-5-1938 and the Revenue Inspector on 14-5-1938. The lands were inspected on 31-5-1938. The village officer caused much delay in filling up the statement. He fixed the value of the lands at Rs. 175 and testified to the applicant's regular payment of a former taccavi loan. The applicant on the whole owned lands to the extent of 2.4 acres but she stated in her application that she was the owner of five acres. The applicant already owned a pair of cart bulls and two pairs of plough bulls. According to the village

officer's statement the applicant wanted to buy a cart, a pair of cart bulls and a pair of plough bulls though in the application there was no reference to the plough bulls. The Revenue Inspector in his statement remarked that he found some lands sandy and others not fertile. He fixed the value of all the lands produced as security at Rs. 79. It is curious that the estimates of the value of lands by the Revenue Inspector and the village officer are always quite divergent. On enquiry the Revenue Inspector found that the applicant wanted to buy plough bulls as well. The Revenue Inspector did not recommend the sanction of the loan because the applicant owned only 2.4 acres of dry land. She already owned a pair of cart bulls and two pairs of plough bulls which were more than sufficient for the lands in her possession. Moreover the security offered for the loans was not sufficient and the application itself was not bona fide. On these grounds the Revenue Inspector recommended the rejection of the application. The Revenue Inspector disposed of the loan application on 14-6-1938.

These two instances are enough to show the operation of the Agriculturists Loan Act. Hence government loans cannot be made as elastic as those of the moneylender. Moreover, loans by Government cannot be granted in a very short period. A month from the date of application of the loan to the date of granting of the loan is the shortest period for the grant of the loan. The village officers and in many cases the Revenue Inspectors cause undue delay in enquiry and this coupled with the delay in the Taluk Office makes it impossible for the ryot to get his loan quickly for agricultural operations. In some cases the heavy corruption in the granting of loans makes the loans unpopular. The punishment meted out to the officials who grant the loans in case the loans could not be recovered after the lapse of some years, makes them to be unduly vigilant and strict in the recommendation of applications for loans. The ryots on their part are rarely honest. They take a loan for an ostensible purpose, usually the purchase of bulls, and spend the money differently. Examination of sixty-six loans granted in the Kurinjipadi Firka (Vide Table 59) shows that in almost all the cases the purpose is the purchase of bulls. As a matter of fact the money might have been spent in an unproductive way in spite of the vigilance of the revenue officers. These various reasons account for the unpopularity of the taccavi loans. In the Kurinjipadi Firka between 1924 and 1938 only sixty-six loans were granted both under the Agriculturists and the Land Improvement Loans Acts (*vide* table 59). The amount of a single loan never exceeds Rs. 500.

Special Loans

Under rules framed under section 10 of the Land Improvement Loans Act and section 4 of the Agriculturists' Loans Act, the Director of Industries is empowered to grant loans to agriculturists for installation of pumping plants and the Director of Agriculture to grant loans for the purchase of agricultural implements and machinery to improve the lands in connection with the installations of such machinery. The Director of Agriculture and the Director of Industries are competent to sanction loans not exceeding Rs. 3,000 and Rs. 5,000 in each case respectively. Loans exceeding these limits are to be sanctioned by the Provincial Government. The present rate of interest on these advances is 5½%. The number and amount of the annual instalments in which the loans are to be repaid are fixed by the Directors. The number of instalments is subject to the following maxima; (1) when the loan is secured by immovable property—20 years, (2) when the loan is secured by plants and machinery—5 Years; (3) when the loan is secured by personal security—2 years. In cases where loans are secured partly on one form of security and partly on another, then the maximum period of repayment shall be so fixed that portions of the loans secured by item (2) or (3) are repaid with interest in five or two years respectively. The following statements will show how insignificant are the amounts of such loans:—

By the Director of Agriculture

<i>Year</i>	<i>Amount</i> Rs.
1933-34	.. 12,200
1934-35	.. 15,064
1935-36	.. 15,910
1936-37	.. 16,660
1937-38	.. 22,373

By the Director of Industries

<i>Year</i>	<i>Amount</i> Rs.
1933-34	.. 11,200
1934-35	.. 3,000
1935-36	.. ..
1936-37	.. ..
1937-38	2,600

In the year 1935 the Agriculturists' Loans Amendment Act was passed to advance loans to the ryots for the relief of agricultural indebtedness. The amount of loans advanced for the three years ending 30th June 1938 is:—

	<i>Lakhs.</i>	<i>Rs.</i>
1935-36	..	1.68—in two districts
1936-37	..	16.85—in two districts
1937-38	..	7.41—in ten districts

After the passing of the Madras Agriculturists, Relief Act in March 1938, the rules originally framed were superseded by fresh rules framed in September 1938. According to the rules, loans for the relief of indebtedness may be granted only to agriculturists as defined in the Madras Agriculturists' Relief Act of 1938, who own lands or the occupancy rights in lands, the value of which, free of encumbrances, does not exceed Rs. 5,000. Ordinarily a loan will be granted only for satisfying a decree or order for the repayment of a debt passed by a civil court or Debt Conciliation Board in accordance with the Madras Agriculturists' Relief Act, 1938. In any revenue division where there is no Debt Conciliation Board the Loans officer may scale down an undecreed debt in accordance with the provisions of the Relief Act provided that both creditor and debtor consent and provided the officer is satisfied that the loan if granted would discharge all the debts of the applicant or the whole encumbrance on a definable part of his property. Loans are granted only on the security of immovable property. The value of the security should be not less than two and a half times the amount of the loan. Every applicant should make a full disclosure of all his debts. Loans are to be granted only to discharge either the entire debts of the applicant, or for a portion of the debts of the applicant, in cases in which the discharge of such portion of debts would cancel the total encumbrance on a particular part of his property. Loans are to be granted only where the scaled down debts do not exceed Rs. 1,000 or fall below Rs. 100. The local enquiry on the application for loans is not different from that of the Agriculturists' Loans rules. The rate of interest is $6\frac{1}{4}\%$ per annum and the loans will be repayable by equal annual instalments discharging both principal and interest. The first instalment will be repayable not later than twelve months from the date of disbursement of the loan. Ordinarily the loan should be repaid in 20 instalments and in special cases in 30 instalments. The application for the loan should be made to the local officer competent to sanction the loan and the application should

be accompanied by a copy of the decree or order of the Civil Court or Debt Conciliation Boards scaling down debt. There are fourteen forms for the administration of these loans.

During the year 1938-39 Government provided a sum of Rs. 50 lakhs for the disbursement of loans to agriculturists for the relief of indebtedness but only one loan for Rs. 120 was actually disbursed up to the end of January 1939 while seven loans for Rs. 2,380 were pending disbursement on 31st January. It is hoped that the whole sum would be disbursed very soon. In the budget estimate for 1939-40 a further sum of Rs. 75 lakhs has been provided for disbursement of loans. It is too early to judge the operation of the grant of the loans. The grant of loans by government in a way solves the problem of repaying scaled down debts. It supplements the work of land mortgage banks. In the grant of loans preference should be given to small agriculturists whose debts are scaled down.

Distribution of taccavi loans through Co-operative Societies

This question was raised as early as 1903 but the Government of India thought that State aid to Co-operative Societies would prove destructive to self-help. The Madras Banking Enquiry Committee were of opinion that if these loans were passed through central banks, the ryots would get them at the same rates as other co-operative loans. If the society got the loans directly from government an anomaly would arise, for there would be two different rates in the society. With regard to land mortgage banks they are of opinion that they could get money in the market direct as cheaply as they could through taccavi loans. According to them the Taccavi Loan Manual with its complications should not be brought in. The Central Banking Enquiry Committee say "we have however no objection to Government using the Co-operative Societies as mere agents for distribution.....The societies should not be responsible for watching the application of the loans or for their recovery." The Revenue Department which is overburdened with work is generally considered to be very unsatisfactory with regard to distribution of taccavi loans because of the inordinate delay in the disposal of loan applications and the levy of illegal gratification. So Government may use Central Banks and Land Mortgage Banks as distributing agencies leaving the work of inspection and collection to the Revenue Department. The staff of the Central banks and land mortgage banks should give such assistance as they could possibly give.

CHAPTER 9

CO-OPERATIVE ORGANISATION—SHORT TERM CREDIT

(1) *Theory of Co-operation*

Co-operation implies “a co-operative society in which the associated members join together for the attainment in common of some business purpose. There is no necessity that the compact should be perpetual, but each member, as long as he remains so, binds himself to regulate his relations, in so far as these concern the society, in the interests of the society as a whole.”* The existence of certain wants (especially of the weak) for which in the prevailing system of economic organization no solution was possible, was the main reason for the development of this movement in many countries. In England, for example, co-operation developed out of a felt want. The movement was directed towards the improvement of the material welfare and conditions of living of the working class people. The aim of the Rochdale Pioneers of Consumers Co-operation was to get good articles of daily consumption as cheaply as possible by opening their own shop. In Germany, Austria, Italy, Hungary, Russia and India, co-operative credit societies have sprung up to meet the wants of the poorer classes, both urban and rural. But the benefits of co-operation have not been denied to the rich. The basic principle of co-operation is that there should be a common need among the persons and such common need can easily be found in the poorer class of society only.

Co-operation stands for associated effort. Its motto is ‘each for all and all for each.’ But the association between members is not compulsory but only optional and voluntary. The members meet on a basis of perfect equality and the society is a perfect democratic body. The voluntary principle must be regarded as absolutely indispensable for co-operative organization. Popov says “voluntary joining and voluntary resignation of members is one of the most important characteristics of co-operation. If this policy is neglect-

*C. R. Fay—Co-operation at Home and Abroad.

ed, if a general obligatory membership is established, there will be no difference between the state and co-operation as an original form of economic activity of the population." Mr. H. Calvert said "Co-operation is a form of organization wherein persons voluntarily associate together as human beings on a basis of equality for the promotion of the economic interests of themselves."

The individual is the basis in the co-operative organization and personal element is more important than money. The general cry of co-operators is 'one man, one vote.' The underlying idea of this principle is to avoid money getting the upper-hand in the societies. Membership is not to be restricted to any particular class. The doors of the society should be wide open for suitable members to join it. The society exists to meet the needs of its members and not to earn interest or dividends. The accumulation of capital is not its aim. The capital of the society is held collectively. Individual members can withdraw only the amount they have placed with the society.

The social aspects of co-operation are very important. Co-operation is identified with the working classes, for the majority of the members of the organization are wage-earners in towns, small farmers and small-scale producers. The organization is built up on a democratic basis and equality of all members is ensured. The management of the society is through election of all responsible officials by the general body. Mutual service among the members is the main principle of co-operation. By collective action the co-operators try to achieve their own ends. Sir Horace Plunkett defined co-operation as "self-help made effective by organization."

As already pointed out the economic aspect of co-operation is the most important. The co-operative society developed out of a felt want. There are consumers' societies, producers' societies, marketing societies, credit societies, building societies, insurance societies, better living societies, and societies for many other purposes to better the individuals economically. Here a distinction may be drawn between joint-stock banks and co-operative credit societies.

The Joint Stock Bank which is an association of lenders or capitalists is quite different from the co-operative credit society, which is an association of borrowers. In the former the capitalists bring their funds

together to earn a profit. The capitalist employs workers, pays wages and appropriates for himself large profits and dividends. But in the latter form of association—an association of borrowers—capital is subscribed by every member and profits are not through dividends on the capital, but through personal use of the subscribed capital and other capital attracted. High dividends are not the aim of these associations for being borrowers high dividends will only mean an increase in the interest rate. In a co-operative stores high dividends will mean an increase in the price of articles. Hence the aim of these voluntary associations to have as little dividends as possible. The interests of borrowers and shareholders are opposed in the case of joint stock concerns, while in the case of co-operative ventures, the interests of lender and borrower are identical. "These two classes of institutions may almost be defined respectively as associations of money and associations of men." Members join the co-operative societies not as wealthy owners of capital but as honest human beings possessing character. Another feature of joint-stock banks is their establishment in big towns and not in rural parts. For in towns there is vast scope for employment of capital and for earning profit. Hence the countryman is left without any banking facilities. Where branches of the big joint stock banks have been established in the country, they do not educate and guide the borrower. The co-operative banks, on the other hand, have spread in the rural parts of Europe and rural credit is generally found under the form of co-operative credit. Sir F. A. Nicholson describes the good that comes out of the establishment of the co-operative banks in rural areas. "With their aid journeymen become masters, labourers become owners; hopeless debt is banished and the usurer driven out; agriculture and industry developed, and the villages in the poorest tracts become prosperous; the illiterate man turns towards education and the drunkard is reclaimed; the middleman is eliminated; the peasant gets full value for his produce, and pays his rent with ease, village life is stimulated by associated action and by the business education of the bank; punctuality, thrift and mutual confidence are taught; litigation decreases and morality improves; self-help and not that of Government or philanthropists is the main-spring of action; activity takes the place of stagnation and routine; associated action replaces distrust. This is true not of a few isolated villages but in thousands of cases." The sections on primary agricultural societies in the Madras Presidency will describe how in this Province, at least, the establishment in the rural areas of the Raiffeisen societies did not bring with it so much good as in Europe.

The various characteristics of co-operation having been considered, a correct definition of co-operation should be evolved. Mr. Barou's definition of co-operation includes all the chief characteristics of co-operation. "Co-operation means voluntary organization of persons, with unrestricted membership and collectively owned funds, consisting of wage-earners and small producers in town and county, united on a democratic basis of equality and mutual interest for the establishment of enterprises under joint management for the purpose of improving their household and or business economy, or creating facilities of work, surplus being allocated to reserves or distributed among the members in proportion to their utilization of the facilities provided by the organization." Mr. Barou has omitted the rich from forming into co-operative associations. Mr. Barou's argument for this criticism is that co-operative organization arose to satisfy not the needs of the rich but of the poor. The rich are included only if they do not try to change the general aim of the movement. In this respect co-operation in the Madras Presidency is a failure. The rich dominate the societies in the villages.

The rural credit associations are mainly based on the Raiffeisen type of societies, which are named after their founder who began his co-operative career in 1849 by organizing his first loan society at Flammersfeld. Already co-operative societies mainly for artisans and small employers of labour and shopkeepers were organized by Schulze of Delitzsch in the Province of Saxony. But Raiffeisen had in view the needs of the agriculturists.

The main features of the Raiffeisen banks are as follows:—The associations are constituted from members of a small area. The area of operations of the society is limited. This is to secure mutual personal knowledge of members. But the areas of the Schulze-Delitzsch type of credit societies are not limited. The possibility of the close supervision of their credits is diminished and their usefulness to agriculturists is thus impaired. The liability of the members is not limited in both types of societies. This has increased joint responsibility, which has prompted vigilance in control and supervision. Considerable care is taken in scrutinising the claims of borrowers. Schulze-Delitzsch societies which are based on unlimited liability lack this control and supervision of the activities of the members. Unlimited liability is dangerous if the area of operations is not limited.

In the Raiffesien societies, shares are of low value thus enabling access to the societies easier. Dividends have been limited to the maximum rate of interest paid by borrowers for loans. The major portion of the profits has been allocated to a permanent indivisible reserve fund. The aim of the indivisible reserve fund which is growing continuously is to make it possible to dispense with outside capital and lend without interest. The officials, with the exception of the Secretary, are either honorary or receive only a very small remuneration to cover travelling allowance etc. Hence the cost of administration is kept very low. The value of shares in the Schulze-Delitzsch type are of high value. Sometimes dividends paid are very high. Their business attains sometimes immense proportions and they represent, in a large measure, commercial profit-seeking associations. Loans are granted for very short periods—mainly for three months—and can be renewed. Loans are repayable in lump and not in instalments. In the Raiffeisen societies loans which are issued mostly on personal security for productive or provident purposes are repayable in instalments from one to five years. But as the societies are based on unlimited liability loans on personal security are as good as loans on immovable property. Every year the members determine the maximum credit that may be held by each member at any time as well as the maximum total of loans that may be taken up by the society and maximum total of savings deposits receivable. In the Schulze-Delitzsch type of banks regular banking offices are maintained with salaried staff, who form the committee of management. There is a Board for supervision over the committee and it receives remuneration.

While the Schulze-Delitzsch type of society is purely economic in character and is based on pure business principles, the Raiffeisen type is intended to promote the moral as well as the material advancement of members, and in particular the purchase of agricultural requisites for sale to members and the procuring of agricultural implements and machines for letting on hire to members. Raiffeisen banks have been supported since their inception by clergymen of all denominations. They acted as chairmen and even as secretaries and members of committees of management and of boards of supervision. A spirit of service and sacrifice is found in many philanthropists of Germany. Rural teachers have done great service to these societies. Larger land-owners also encouraged these village banks not only by accepting offices but by depositing with the banks and borrowing from them. But these village banks are not so necessary to big landholders as they are to small holders. The former can easily get credit and on better terms than the

latter from the commercial banks. If rural co-operative societies are not so successful in the Madras Presidency as in the land of their birth, the reasons are many and they are discussed in the succeeding sections of this chapter. But the chief reason for the unsatisfactory development of co-operation in this country is the lack of selfless workers in the villages.

(2) *History of Co-operative Credit Societies in the Madras Presidency*

It was in the year 1875 that the inhabitants in some of the villages of Poona and Ahmadnagar rose in revolt against the rapacity of the money-lenders, seized the bonds and other securities and burnt those documents openly. The Government instituted a commission to go into the question of Deccan riots. The measures introduced by the Government to protect the cultivators were inadequate. The famine Commission of 1901 examined the question of giving credit facilities to the agriculturists and came to the conclusion that help by the state in the shape of takkavi loans, would go only a very small way towards removing the difficulties of the rural folk. So they said that "In the establishment of Mutual Credit Associations lies a large hope for the future of agriculture in India; and from the inquiries we have made there is reason to believe that, if taken up and pressed with patience and energy, such associations may be successfully worked."

Even before the Famine Commission of 1901 recommended the adoption of Mutual Credit Associations for India, Lord Wenlock, the Governor of Madras appointed a commission under the chairmanship of Sir Frederick Nicholson to enquire into the possibility of introducing into this Presidency a system of land or agricultural banks. Nicholson made a detailed study of popular (personal) and mortgage credit in Europe and also an intensive study of the local credit institutions. Nicholson examined at length the working of the Nidhis or Loan societies and chit funds (described in the previous chapter) and found that they contained the germ and promise of infinite potentiality. They sought to encourage co-operative principles and habits, stimulate thrift and providence, and inculcate punctuality. Societies and borrowers were in immediate contact and repayments were easier because of small equal instalments. In determining the institution best adapted for rural credit, Nicholson found that central banks and state banks not only not accorded to the true postulates of credit but were unsuitable to the small folk who generally borrowed below Rs. 50. "Central banks and state banks being thus found objectionable, it follows that what will be chiefly required for the credit work of the Madras districts, are small, locally worked institutions on the lines of the European village institu-

tions; it is village banks, not District or even taluk banks, that are required."

About the same time the Government of the United Provinces deputed Mr. Dupernex of the Indian Civil Service to enquire into the possibilities of establishing Agricultural banks. His investigations were published in 1900 in the form of a report, 'People's Banks for Northern India.'

Societies had begun to be established by public-spirited men in some parts of India. But there were legal and other disabilities in the promotion of such societies. They were registered under the Indian Companies Act which was utterly unsuitable for this type of societies. A Committee under the chairmanship of Sir Edward Law was appointed to make proposals after consulting provincial governments and other experienced officers. On the detailed recommendations of this committee a bill was prepared and the first co-operative law in India was passed in 1904. The Act of 1904 was a simple enactment and its provisions were confined to those general principles, to which all co-operative societies are expected to conform. A co-operative society for the encouragement of thrift and self-help could be started if ten persons at least of the same village or town combined together. The Act recognized two classes of societies, the rural and urban. The former should have four-fifths of their members as agriculturists and the latter four-fifths as non-agriculturists. So the words rural and urban had no reference to the location of the society, but to the agricultural or non-agricultural occupations of its members. While in the case of rural societies unlimited liability was the rule, in the case of urban societies, it was a matter of choice. The main function of a society was to raise funds by deposits from members and loans from non-members, Government and other co-operative societies and to distribute the funds thus raised in loan to the members, or with the special permission of the Registrar, to other co-operative credit societies. The audit of the societies should be conducted by the Registrar or a member of his staff authorised on his behalf. The profits of a rural society should not be distributed among its members but should be carried to a reserve fund. In the urban societies profits could be distributed if one-fourth of the profits in any year were carried to the reserve fund. Loans could be advanced only to members usually on personal or real, but not ordinarily on chattel security, although ornaments could be accepted as security. The societies were exempt from income-tax, registration fee and stamp duties. During the years that followed there was rapid progress in the formation and growth of co-operative societies. The first co-operative society in the Presidency

was registered on August 30th 1904. At first progress was slow, as more attention was paid to quality than to quantity. The Registrar personally supervised and inspected every society and sanctioned all loans. He also personally trained his small staff. In 1907 the number of societies had grown to 63 with 6439 members and in 1912, the number of societies had grown to 972 with 66,156 members. The Conference of the Registrars held in 1909 scrutinised the Act in the light of their experience and discussed future possibilities. Many new problems like the introduction of central banks which provide resources for enabling societies to meet their liabilities to depositors sprang up and they necessitated an amendment of the Act.

The Act II of 1912 carried out necessary changes and provided for the organization of all forms of societies in addition to the credit society so as to ensure an all-round progress of the movement. The old distinction between rural and urban societies was abolished and societies were classified according to the nature of their liability as limited or unlimited. The establishment of banking unions and central banks to act as financing agencies and balancing centres of primary credit societies was provided for under the new Act. The central banks were federated into provincial banks and the co-operative credit movement entered into a new phase. Thus in the province the financial structure of co-operative credit organization is pyramidal. As Wolff says the co-operative credit societies are the real outlets through which credit flows from the co-operative financial distributary system, "thinning out the stream of water collected, sending it in rills over a broad surface, so that irrigation may be perfect reaching every root to be watered." Many other minor changes were also effected.

This enlargement of the functions infused fresh enthusiasm into the movement and the number of societies rapidly increased and in 1914 reached 15,000 with a membership of nearly 700,000. The number of societies in Madras in 1915 was 1600 (of which 1446 were agricultural credit societies) with 118,726 members and a working capital of Rs. 142.10 lakhs. After Government ceased to finance the societies the Madras Central Urban Bank was registered in 1905 to finance the co-operative societies in the Presidency. In 1909 district central banks were formed and they were identical in principle and working with the M.C.U.B. They were also supposed to inspect co-operative societies but their by-laws contained no provision either for inspection or supervision. A new type of central bank known as the banking union came into existence in 1912 not only to finance but to supervise societies. The importance of central banks lies in the fact that out of a total work-

ing capital of Rs. 64·55 lakhs of the agricultural societies in 1915 about Rs. 50 lakhs were supplied by them. The first supervising union was started in 1910 and its membership was confined to co-operative societies within a radius of seven miles. The ultimate aim was that when they were developed the state might withdraw from the work of supervision, confining itself to audit work. On June 30th, 1915 excluding the Madras Provincial Co-operative Union, there were 19 supervising unions and 10 central banks working in the Presidency. The Provincial Co-operative Union was started in 1913-14 with the general object of assisting co-operative work. In 1914, the Government of India reviewed the working of these societies, describing the nature and extent of the problems involved. The arrangements for financial management in stages above the primary societies were becoming complicated and the principle for the conduct of inspection and audit remained indefinite and uncertain. So Government appointed a committee on co-operation "to examine whether the movement especially in its higher stages and in its financial aspect is progressing on sound lines, and to suggest any measures of improvement which seem to be required." Sir Edward Mac-lagan who presided over the committee prepared an able report which led to the reorganization and overhauling of the whole administration of co-operation. The share of non-officials in the movement began to assume increasing importance. Co-operative institutes were started in the various provinces and unions and federations sprang up in various divisions and districts. Co-operative education and supervision of societies were taken up by these non-official agencies. The Government of India Act of 1919 made co-operation a provincial subject. This is the first stage in the development of the history of co-operation.

There followed from about 1915 to 1927 a rapid growth of societies of all kinds. This is the second stage of development. The table that follows gives an idea of the growth of the movement.

Year. 1913-14	Societies of all kinds.	Individual Members.	Central Banks.	Total working capital of all banks and societies.
				Rs. (Lakhs).
1913-14	1,333	100,537	8	123·21
1918-19	3,676	244,297	26	305·21
1923-24	9,785	616,628	33	839·27
1924-25	11,141	690,740	32	987·57
1925-26	11,973	748,783	32	1132·8
1926-27	13,357	830,522	32	1334·34

Continued—

Year.	Actual working capital in the movement excluding investment of one society in another.	Reserve fund.
	Rs. (Lakhs)	Rs. (Lakhs).
1913-14	70.71	6.19
1918-19	169.20	14.65
1923-24	420.70	38.35
1924-25	508.93	46.85
1925-26	624.35	56.5
1926-27	727.35	68.54

Agricultural credit societies being by far the most important of all co-operative organizations, numbered 11,000 on June 30th 1927 out of a total of 13,357 societies. The number of societies in 1915 was only 1438. The working capital of agricultural credit societies in 1927 was Rs. 489.52 lakhs of which Rs. 375.56 lakhs had been lent by central banks. In borrowing money, the total amount of loans outstanding against members of agricultural primary societies was Rs. 4,31,67,854 on June 30th 1927: the corresponding figure on June 30th 1915 was Rs. 57,73,362. The overdues for a period of five years from June 1922 shows that the members did not realise their responsibility for repayment of loans:—

Year.	Overdues.	Percentage to the total demand for the year.
	Rs.	
June 30, 1922	37,26,510	31.08
" 1923	49,61,255	35.96
" 1924	68,35,671	41.69
" 1925	84,56,494	41.95
" 1926	1,07,79,319	46.15
" 1927	1,21,29,507	45.65

Not only the overdues regarding principal went on increasing but overdues regarding interest also went on increasing and at the end of 1926-27 it was 46.18% of the demand. A few of the large number of

credit societies acted as agents for the joint purchase of the agricultural, domestic and other requirements of its members, and for the joint sale of their produce. Only in a very few cases village societies undertook the purchase of implements, machinery or animals for hire to their members. Dissemination of knowledge of the latest improvement in agriculture, handicrafts and weaving is not done to any extent that needs one's attention. Little success has been attained in the course of twenty years in the matter of encouragement of thrift, self-help and co-operation.

The developments of the financing institutions—the central banks—are worth noting. In June 1915 there were eight central banks excluding the M.C.U.B. Though supervising came into existence after 1915 some central banks continued to supervise primary societies. In 1926-27 the number of central banks rose to 31. While the deposits and borrowings including overdrafts were nearly 1·4 crores in 1920-21 it gradually rose to 4·2 crores in 1926-27. A major portion of the deposits was from individuals and the local bodies. The latter were allowed to deposit in central banks first in 1919-20. Overdrafts on the Imperial Bank and the M.C.U.B. were common. The working capital trebled in the course of seven years. The percentage of the amount of loans outstanding with primary societies classified according to period on June 1927 is as follows:—

27·47% advanced for one year; 17·75% for two years; 38·51% for more than two years but less than five years; 16·27% exceeding five years. Loans advanced for one year and between two to five years are common. The amount of overdues for the years 1922 to 1927 are as follows:—

		Principal	Interest
June 1922	..	10·74	2·8 %
„ 1923	..	12·68	3·44%
„ 1924	..	16·98	5·37%
„ 1925	..	13·82	3·04%
„ 1926	..	16·76	3·53%
„ 1927	..	20·18	5·06%

The MacLagan Committee recommended that the total liabilities of central banks should not exceed more than eight times their owned capi-

tal. But Government in 1926 fixed the proportion at ten times. The fluid resources which should consist of cash on hand, undrawn cash credit with the Imperial Bank and 80% of the current market value of Government promissory notes, should be in the form of 50% of current deposits, 50% of fixed deposits falling due within the next thirty days, 25% of saving deposits and 50% of the amount of cash credits allowed to other societies.

The M.C.U.B. which was started in 1915 was financing co-operative societies of all kinds in districts where there were no central banks. In 1917 it was converted into an apex bank and most of the shares of the primary societies were transferred to the central banks. The primary function of the bank was to lend to central banks. The tendency in the apex bank was to reduce the rate of interest charged to central banks. The financial position of the bank was being strengthened in the course of years. The most important depositors in the order of preference in 1927 were individuals, central banks and local boards. The bank was sanctioned overdraft by the Imperial Bank. It was laid down that the liabilities of the bank should not exceed twelve times its owned capital and the character of fluid resources should be the same as in central banks.

Supervising unions and federations which were only small in number in 1915 grew up in size with the expansion of the movement. The Provincial Co-operative Union which was started to propagate the principles of co-operation in 1918 grew up with larger membership and increased funds. With the expansion of the movement in 1919-20 supervision became more and more the business of non-officials. The growth of reserve funds in Madras was hampered by the margin available for working expenses in this Presidency. The number of disputes that came up for arbitration before the Registrar, came up to 21,000 in 1926-27 while in 1916-17, the number was 1,097. The liquidation of credit societies was gradually falling between 1922 and 1927. Thus the second period of the movement saw a vast expansion of the co-operative movement.

A committee on co-operation was appointed in Madras in 1927 under the chairmanship of Townsend to examine the progress made in the co-operative movement in the Presidency since the Maclagan Committee's Report; to enquire into the present position and make recommendations on the financial organization, propaganda, supervision and

control of societies and in regard to co-operative distribution, production and sale. The main recommendations of the committee are (1) Rectification of dormant societies, or failing this, liquidation of those societies. (2) In cases of embezzlement, especially in primary societies, where proof is forthcoming, proper punishment should be inflicted. (3) Loans given by primary societies should be divided into short-term and long-term, the former being repayable in whole out of the next harvest and the latter over a period of years out of the annual savings of the borrower. It was suggested that effort should be made to provide for long-term credit through land mortgage banks. (4) Societies should be classified not according to overdues but according to the working of them from all aspects. (5) Panchayatdars should not be paid except in respect of clerical work undertaken by them. (6) Property statements, which form the basis on which credit should be allowed to societies should contain full details of property. (7) Local deposits should be encouraged. (8) Careful attention should be paid to overdue loans. (9) A central land mortgage bank should be formed. (10) Registrar should consult non-officials in the change of policy. (11) Suggestions regarding more careful supervision and inspection, audit, the maintenance of fluid resources, arbitration, liquidation and execution and increasing of the power of the Registrar. In 1932 a draft bill was prepared giving effect to the suggestions of the Committee and embodying the results of experience of the movement and rectifying certain defects of the 1912 Act. The noteworthy features of the Act of 1932 are the provision for speedy collection of arrears, greater powers to the liquidator to wind up societies and larger powers to the Registrar in the matter of prosecutions for offences. In the year 1934 a Central Land Mortgage Bank was established by the passing of an Act.

The third stage of development of the co-operative movement in this Presidency is from 1927 to the present day. A statement of the progress of the movement is given in Appendix II—Table 46. After 1926-27, the increase in the number of societies was continuing though the increase was not so marked in the years 1928-29 and 1929-30. But from 1930-31 there was a fall in the number of societies and it reached the low figure of 12,927 in 1936-37. Only in 1937-38 there was a slight recovery. The fall in the number of societies was due to the fact that a process of consolidation and rectification of societies undertaken during this period resulted in the liquidation of a number of bad and dormant societies. The registration of new societies was restricted. The

average number of societies registered during 1928 to 1938 was 303, while the average number liquidated during the same period was 441. The annual reports of the registrars of co-operative societies classify societies into four groups.* In the years 1927-28 and 1928-29 there was an increase in the A and B class societies (thoroughly good societies and societies with some defaulters and some mistakes in accounts). Afterwards there has been a rapid fall in A class societies till 1934-35 and in B class societies till 1935-36. There is only a slight recovery in A class societies in 1935-36 and 1936-37 and in B class societies in 1936-37. There was an increase in C class societies (bad societies which are not yet so bad as to deserve liquidation) the largest in proportion of all classes of societies, between the years 1927-28 and 1929-30. There was a fall in the next three years in this class of societies and then a rise and fall in alternate years. D class societies (societies which are bad and should be liquidated within two years if they do not come under class C) were falling and rising in alternate years till 1936-37. The number increased to an unexpected level in 1932-33. C and D class societies which are an index of the unsatisfactory development of co-operative societies form the greatest proportion of the total credit societies. The bad condition of the movement can be gauged by studying the position of overdues.** The amount of overdues both in the case of principal and interest is very threatening. But this period saw an expansion of land mortgage banks and the number which was 10 in 1927 rose to 101 in 1938. More will be discussed about land mortgage banks in the chapter allotted to them. There was a general increase in the loan and sale societies and other non-credit societies. While there were 38 loan and sale societies on 30th June 1927, the number increased to 118 in 1938. One note-worthy feature in this period is the attempt at an all-round improvement of the ryots through the societies. One such society called the Co-operative Rural Bank was started at Alamuru in February 1938. The object is to undertake all activities conducive to better farming, better business and better living. There have already been such multi-purpose activities in credit societies e.g., The Mallasamudram Co-operative Society in Salem.

*Vide Appendix II—Table, 48 & 49.

**Vide Appendix II—Table, 47.

The financing agencies of societies are the Central Banks and the Provincial Bank. The Central Banks followed the scheme of rectification of societies from 1930-31 in order to see whether or not all the loans in each society were adequately secured and whether any immediate action was called for into each outstanding loan.

On the whole it must be said that the co-operative movement has not developed on sound and efficient lines in this Presidency. The failure of the movement is due chiefly to the neglect of the moral aspect of the movement. Men without character, panchayatdars who are unscrupulous persons have entered the movement and have mismanaged the affairs for a long time. Supervision is carried on by central banks with the assistance of unions which consist of no other persons than the representatives of societies and the central bank also consists mostly of such representatives. Such self-supervision is bound to be a failure. The movement, even after the establishment of land mortgage banks, has not done much to relieve indebtedness. In February 1939 Government appointed a Committee (with Sir T. Vijayaraghavachariar as chairman) to enquire into the condition of the co-operative movement and recommend various improvements. The committee is expected to submit its report shortly.

(3) *The Primary Agricultural Credit Societies: Constitution and Management*

The three principles of credit according to Sir F. Nicholson are "Absolute proximity of lender and borrower; complete security to the lender as regards the title of the property offered, its freedom from prior encumbrances, the recovery of his capital and interest at due date in convenient amounts, with facilities for enforcing such recovery in case of arrears; thorough safety and facility to the borrower, in his ability to obtain cheap loans, at any time, to an amount proportionate to the security he can offer and upon terms which would be so equitable in themselves, so convenient as regards repayment, so free from all risk of deliberate entanglement, so based upon published rule, so devoid of any tendency to discount necessity or urgency or otherwise than by an equitable insurance that he can calculate on reaping the full fruits of his prudence and find in credit a powerful auxiliary to his productive powers and stability." These postulates of credit are best satisfied by the Village Co-operative Credit Society. Here we shall examine in detail how far the primary co-operative credit societies in the Madras Presidency have conformed to these principles of credit.

(i) Area of operations and membership of the Societies

The village society, even as the Raiffeisen bank, covers a small area, the ideal aimed at being, one society for every village. But Raiffeisen village societies should operate in villages with not less than 400 and not more than 2000 inhabitants. The principle of restricted area is deemed essential. For the larger the area which people occupy, the smaller is their knowledge of each other. In a small area, it has a perfect knowledge of the candidates for the society, and can reject all unworthy of the honour. Sometimes a village is divided by caste or occupation or otherwise and it is not possible for a single society to include all sections in the village. In such cases, more than one society in a village is formed. When a village is very large and mutual knowledge of each member is not possible, it is necessary to have more than one society. But unfortunately, in the Madras Presidency the limitation of the area of operation for a village society has not brought with it, all the advantages mentioned above. The reason for the village societies failing to achieve the success expected of them is the want of proper human material in the villages.

In the selection of members, it is said that great care should be taken to select men of character. They are expected to be honest and hard working and should be relied upon to do their duty to the society. To have a greater property backing for the society it is desirable to include persons of property and position in the village. Those who are adjudicated as bankrupts or insolvents or who are likely to become so are not included as members. Poor men who are hard working and are of good character should not be refused admission. Members of the Society should be residents of the villages included in the area of operations; that is, members should own houses in the area of operations and should reside there frequently. Persons who own landed property but do not own houses are not admitted as members. Minors are not admitted as members. Women who possess property of their own or work and live independently can become members. No member of a Society can be a member of any other society except a financing bank or a land mortgage bank. Each member has to pay an entrance fee and take one or more shares in the society. Members can withdraw from the society only after a lapse of five years. The liability of the members extends for two more years even after they leave the society. On the death of a member, his estate is liable for the debts of the society for two years.

(ii) Sources of Capital

The capital of the society is composed of entrance fees, share capital, deposits and other borrowings either from members or other persons or institutions. A large portion of the working capital of primary societies is derived from the co-operative central banks.

The object of paying an entrance fee, though small, is to make members realise that membership to a co-operative society is a privilege.

The share capital of the society is generally very small as in Raiffeisen societies ranging from rupee one to rupees ten. So far as the societies visited by me in the South Arcot District are concerned, share capital does not play an important part either as a source of investment to members or as an incentive to a feeling of responsibility or loyalty to members. The percentage of share capital to total working capital as on 30th June 1938 is 10·17. Instalments of share usually fall into arrears and not much trouble is taken to collect them. The Madras Co-operative Manual says "It (share capital) is not so much an investment entitled to a dividend as a contribution by individual members towards the common capital of the Society." It is therefore necessary to increase the value of shares and as in the Punjab it should be laid down that no member could hold shares which exceed in value Rs. 1,000 or one-fifth of the total share capital actually subscribed. The Co-operative Societies Act prohibits the payment of dividend in the case of a society with unlimited liability.

The model by-laws of the village credit societies provide for the receipt of deposits from members and non-members, preference being given to members. Provision is made for various kinds of deposits—fixed recurring, savings, current, home-safe and chit funds. Generally only fixed deposits are taken by the agricultural credit societies. The deposits held on 30th June, 1938 by the Societies from members and non-members are Rs. 8·10 lakhs and 16·34 lakhs respectively. These deposits constitute a very small proportion of the borrowings of agricultural credit societies. While the percentage of total deposits to total borrowings is 8·5, the deposits from members alone work out to nearly 3%. In the survey of some of the co-operative societies in the South Arcot District, it was found that no co-operative credit society had either deposits from members or non-members. The societies examined were nearly ten in number. This is a sorry state of affairs indeed. But it is

encouraging to note that at least in some societies in the districts of Salem, Trichinopoly, South Kanara, Chingleput, Coimbatore, East Godavari, Madura, Ramnad, and Tanjore deposits in co-operative societies are popular. The Mallasamudram co-operative credit society, Salem District is perhaps the one society which, according to the report* of the Additional Joint Registrar of Co-operative Societies, works purely on the deposits of members and non-members and gives the lie direct to the feeling that deposits from the villagers cannot be used in the transactions of a society.

The MacLagan Committee on co-operation recommended "it should be the aim of primary societies to get as much in the way of local deposits as they can." For "such deposits imply thrift in the village, form good lying money, and they tend to interest in the management of the society a useful body of men who stand as sentries over their own deposits." Some of the main recommendations of the MacLagan committee are as follows:—Deposits should be strictly confined to men with local interests and if the deposits received are larger than are needed, the balance should be forwarded to a central bank. The Central Bank will in its turn support its primary societies in their dealings with local depositors. It would be justifiable in the first instance to offer slightly higher rates on deposits from members than on those of non-members in order to tempt members to deposit. As thrift should come before credit and as it is desirable to build up an owned capital, the MacLagan Committee recommends small instalment shares to a compulsory deposit system. It is true in India that all members join a society for borrowing. Deposits for one year or even longer periods are recommended. The MacLagan Committee discharges the keeping of current accounts in primary societies on a very reasonable ground, *viz.*, the trouble of keeping such accounts and the risk attending this practice. It would be very difficult for persons in villages to keep such accounts. The survey conducted in Cuddalore Taluk has proved that at the present stage proper persons will not be available to manage current accounts in societies. Savings deposits as a means of encouraging thrift are so valuable that societies must be encouraged to maintain them. To avoid the danger of misappropriation by the society's officers, a cash balance may be kept with the Central Bank and a few days' notice may be required to every withdrawal. Three principles

*Report by Mr. S. Y. Krishnaswamy, Additional Joint Registrar, Coimbatore 20—11—1938.

should be followed, according to the Committee, in the acceptance of deposits. If deposits do not exceed the loan requirements of members and are within the borrowing capacity of the society, they will be accepted and used in loans to members, either directly or by paying off the money which the Society owes to the Central Bank. If they exceed such requirements and are still within the borrowing power of the society, they will be accepted and the surplus which is not required for meeting loans to members will be forwarded to the Central Bank for deposit, the latter giving a slight privilege in its terms for such deposits, such as accepting them, as far as possible, in priority to others and granting for them a slightly higher rate of interest than to outside depositors. In cases where the existence of deposits offered to a society will cause the society to exceed the limit fixed by the Registrar for its borrowing, and in cases where the society has been informed by the Central Bank that it cannot accept deposits, the deposits, even though local in character, would have to be declined and the depositors referred to some adjoining co-operative institution. The committee also recommended that depositors should be given the opportunity to acquaint themselves with the circumstances of the societies which hold their money, by attendance at meetings and examination of accounts, as by this means their sympathy is enlisted and the society benefits by an additional check on its management. Repayment of deposits before due dates should be made only at the convenience of the society and for exceptional reasons, and there should always be a reduction of interest on sums so repaid.

The Townsend Committee on co-operation also suggested that steps should be taken to encourage local deposits in primary societies and that current accounts should ordinarily be forbidden. The Indian Central Banking Enquiry Committee emphasised the fact that the primary credit societies should raise funds locally and should serve as savings banks to their members. The importance of tapping local deposits is very much emphasised and it is very discouraging that no serious steps have been taken by the societies in this direction.

The biggest source of capital for primary societies is borrowings from the Central banks. Loans from Central banks play an important part in the finance of co-operative societies and they form more than 75% of the working capital of the societies. The loans from Central banks will be discussed separately under the sub-section 'financing

institution of primary credit societies.' Loans from central banks are secured by a promote executed by the panchayat on behalf of the society. The interest charged on loans varies from 6 to 6½% and is regulated according to the conditions of the money market.

The maximum borrowing limit of a society depends on its property, its reputation and the activity of the members. Usually the maximum borrowing power is fixed at one-eighth of the net total value of the property statement. But the society cannot claim loans as a right to this extent or to any extent from the Central bank. It is usual to fix the maximum borrowing power of a society at a much lower figure when it is first organised.

Another source of capital for agricultural credit societies is the reserve fund. According to the co-operative law in Madras a statutory reserve fund is created in agricultural credit societies by carrying to that fund 50% of their annual divisible profits. The statutory reserves so built up amounted to Rs. 77 lakhs on the 30th June 1938. The reserve fund of agricultural societies forms 11·88% of the total working capital. The reserve funds are the result of the societies charging a little higher rate than they borrow. The surplus profits after working expenses go to the reserve fund. The statutory reserve fund which is built up by any society and which is intended to meet unforeseen losses is, however, not allowed to be utilised for the purpose of meeting the losses, until the society is actually liquidated. So when the society is functioning and is retaining its corporate character, this reserve fund cannot be used to write off bad debts. Nevertheless what happens is that when a particular society is working at a loss, to that extent, its reserve fund has actually become depleted. The law does not permit making the necessary adjustments to show the true position. In order to write off bad debts from time to time, a special reserve fund called the bad debt reserve has been created for the last five or six years. One of the objects of such reserve is to enable the societies to make periodical adjustment of this fund against bad debts. But this bad debt is not so used but is utilised as working capital of societies. The bad debts reserve are nearly Rs. 15 lakhs in credit societies and Rs. 20 lakhs in Central Banks.

From the very inception of the movement the arrangement in Madras has been that the primary societies should invest their reserve funds in the Central Banks to which they are affiliated. The MacLagan Committee suggested the utilisation of reserve fund in the business of societies so

that they might stand on their own legs without any outside assistance. The object is to free primary societies from having recourse to Central Banks and this can only be done by enabling them to build up their own capital sufficient for their needs. The Townsend Committee was in favour of investing the reserve funds in Central Banks with the exception that the amount in reserve fund in excess of 20% of the working capital of societies should be permitted to be utilized by the societies. The Indian Central Banking Enquiry Committee is also of the opinion that the reserve funds should be invested in Central banks. The Townsend Committee made a further suggestion that the rate charged by the Central Bank on loans granted by it to a society up to the amount of reserve fund deposited with the bank should not exceed by more than 1%, the rate allowed on such deposits. This sane principle is only to mitigate the hardship of societies in the loss they incur by investing their funds with the central bank. The recommendation of the Townsend Committee that the reserve fund may be invested in redeemable Government securities is not appealing because the amount of reserve fund was too small to be invested in Government paper.

It is not conducive to the interests of the society if the reserve fund is invested in the society itself because there is every likelihood of the reserve fund being misappropriated when the society's business is in a muddle owing to imprudence or mismanagement. The reserve fund being no creditor's money will be the first to be affected by such misappropriation. Moreover, in a sound banking business a certain reserve is kept invested outside the business, no matter whether it is the reserve fund or the general fund. The advantage of investing the Reserve Fund in a central bank is that when a central bank fails mainly due to its constituent societies failing to pay their dues and when the societies are called upon to pay their dues, they would naturally point out the reserve due to them from the Central bank. Hence to the extent of the reserves invested in central banks, primary societies will not be losers.

According to sub-section (i) of Section 34 of the Co-operative Societies Act of Madras (1932) a registered society may invest or deposit its funds—

(a) in the Government Savings Bank, or (b) in any of the securities specified in Section 20 of the Indian Trusts Act, 1882, or (c) in the shares or securities of any other registered society provided that no

such investment shall be made in the shares of any society with unlimited liability, or (d) with any bank or person carrying on the business of banking, approved for the purpose by the Registrar, or (e) in any other mode permitted by the rules.

Rule No. XIII on the Reserve Fund runs as follows—"A society shall not invest its reserve fund except in one or more of the modes mentioned in clauses (a), (b), (c) and (d) of sub-section (i) of Section 34 of the Act.

Provided that when a reserve fund of a society exceeds 20% of its working capital, the excess may, with the sanction of the Registrar, be utilized in the business of the Society....."

(iii) *Employment of Funds*

The funds of a co-operative society are utilised for the grant of loans. A co-operative society is mainly an association of borrowers and though its main object is to promote thrift, almost all the members are first borrowers. According to Section 32 of the Co-operative Societies Act persons who are not members of societies and who do not share the liabilities of societies cannot take loans from the societies. No member of the society can claim a loan as a matter of right.

Some of the general principles and procedure regulating the loans are as follows:—

The maximum borrowing capacity of the society is fixed on the property statement of the members. As already said, normally a society can borrow not exceeding one-eighth of the net total value in the property statement. The actual amount of loan that can be given to a member at a time is fixed after ascertaining the purpose of the loan required, the standing character of the appointment and his repaying capacity and the security he can offer. Great care is taken that no member is given a loan which involves repayment in instalments beyond what he can be reasonably expected to pay. Usually the by-laws of societies fix the maximum amount beyond which no member will be allowed to borrow, though in some individual cases separate consideration is required. The aim of the society is to help the needy first and as many members as possible. Hence rich men who may require larger loans may not get them in the initial stages. Hence the maximum borrowing power of an individual is fixed at a very small sum in the

beginning. Large loans for the clearance of heavy debts which will require long periods for repayment cannot be granted by primary credit societies. Long term agricultural finance is provided for separately by land mortgage banks. Loans exceeding the maximum limit fixed in the by-laws are granted when they are secured on the deposits of the borrower in the society or by pledge of produce handed over to the society. Sometimes for heavy cultivation expenses, a joint loan is sanctioned sufficiently in advance of harvest season and it is drawn in instalment as necessity arises. But in actual practice the loan is not resorted to by members. In the case of joint loan every borrower is required to pledge to the society as collateral security the produce to be raised with the help of the loan. Loans on the pledge of produce are given in proportion to the value (not exceeding 75 per cent) of the produce pledged and are repayable on the sale of the produce. These loans can be granted only on produce grown by a member. Loans are also given on collateral security of standing crops not exceeding 40% of the market value of the estimated outturn.

All loans advanced by a co-operative credit society must be for a definite object which will result in the ultimate economic benefit of the villager. The model by-laws lay down that loans should be given only for useful purposes. By an useful loan is meant a loan which will ensure to the borrower a return not only of the principal and interest but also some economic benefit ultimately. To achieve this end a proper enquiry of the purpose of the loan should be made before a loan is granted. Ryots borrow usually for marriage and other domestic ceremonies which are not productive. It is however useful and necessary to fix a maximum limit in the by-laws for ceremonial expenses. The borrower should state in the loan application the purpose for which he borrows and the by-laws lay down that extreme pains should be taken to see that the money is used properly. But in actual practice such scrutiny does not take place and the money borrowed for an ostensible purpose is misspent.

Loans are classified into short-term and long-term loans. In the case of ryots and others, whose main income is derived from agriculture, loans given for cultivation expenses, purchase of manure, seed and minor implements, wages for agricultural labour, hire of ploughs, cattle etc., purchase of fodder for cattle and veterinary charges, minor repairs of cattle sheds annual and minor repairs to water channels, wells and tanks, domestic expenditure and payment of kist should be repayable

at harvest. Extension may be given on the pledge of produce and the money should be repaid to the society as soon as the produce is sold. If the borrower is a wage earner, the precise number of months for repayment should be definitely fixed taking into consideration the monthly wage and the purposes of the loan.

Loans for the purchase of cattle and carts, construction and repair of buildings, purchase of land and expenses in connection with reclamation and improvement of lands, construction and major repairs to irrigation supplies including private tanks, wells and channels, non-recurring important ceremonies and liquidation of prior debts should be for a period of six years. The exact period should be fixed with reference to the period for which the society has got a loan, the purpose of the loan and the member's ability to repay. It is said that loans should be limited in period also according to the term of utility of the object of expenditure and loans for the purchase of cattle and improvements to land and irrigation should not ordinarily extend beyond three years.

The period for which loans are given depends on two factors (i) the period for which the society will have deposits or other funds from the central bank to finance the loan, (ii) the time required for the full accomplishment of the object of the loan so that it may be repaid out of the proceeds. Moreover loans vary according to individual repaying capacity and the purpose for which they are given.

Central banks require the societies to furnish along with each application for loan a list of persons to whom loans are proposed to be given, and loan applications of societies are sanctioned by central banks only after scrutinising the repaying power of each individual applicant. Loans to members exceeding Rs. 250 require the previous approval of central banks. In the grant of loans discretion is used in the degree of urgency. Short-term loans are more urgent than the urgent intermediate loans for the purchase of cattle. To avoid delay in the grant of loans to members, some societies have adopted a system of forecast loans in the nature of a restricted credit. A detailed account of the forecast loans and controlled credit will be given in a later section.

The rate of interest on loans charged by the society is an important problem. Considering the rates at which banks borrow it is not practicable at present to lend to ryots at a lower rate than $7\frac{1}{2}\%$. This rate may have to be raised or lowered according to the central bank's capa-

city to attract deposits.* Central banks borrow the bulk of their deposits at about $3\frac{1}{2}\%$ and lend at rates varying from $4\frac{1}{2}\%$ to $5\frac{1}{2}\%$ per annum. The societies lend at $7\frac{1}{2}\%$ per annum and at the instance of the co-operative department all penal rate has been waived off. Produce loans are treated separately and the Provincial Bank has agreed to lend at 3% , provided the ultimate borrower is not charged more than 5% on produce loans. The societies are advised to reduce their general lending rates to $6\frac{1}{4}\%$ by the co-operative department. The margin between borrowing and lending rates is about $1\frac{1}{2}\%$. A general maximum and minimum rate of lending can be fixed only with reference to local conditions and other considerations but the ultimate aim should be to lend at the statutory rate of $6\frac{1}{4}\%$. The Reserve Bank of India is of opinion that societies prudently run should make provision in the lending rates for seasonal failures of crops, when members are unable to repay the loans, by working on a sufficient margin of profits and building up substantial reserve funds. "The rates of interest charged by the village money-lender are not so fantastically high as they sometimes appear to be, in view of the risk against which he must insure himself, and the margin between the borrowing and lending rates of many co-operative institutions in the past has been dangerously narrow. Societies in districts which are frequently liable to crop failure cannot work successfully unless there is a liberal margin of profit in good years and large reserve funds are accumulated for bad years." It is also true when the Reserve Bank says, "It must be remembered that low margins are possible only when the agriculturist is an economic holder and has been over a long period generally prosperous and creditworthy. Where crops are notoriously insecure and the chances of loss are great the price of credit must inevitably be high if the credit institution is to be worked successfully both as a business and as a co-operative organization. We consider that the levying of rates of interest fixed in consonance with business prudence will not make such a great difference to the agriculturist as is usually made out. In a society which is really co-operative the members, should, by virtue of their co-operative activities and thrift, be able to make sufficient profits to pay a higher rate of interest to make the society self-supporting."† While it is necessary to maintain a sufficient margin between lending and borrowing rates in a society, the question is whether an ordinary member, who is neither

*Deposit rates of some Central banks. Appendix II Table 50.

†Reserve Bank Statutory Report.

poor nor rich would be able to pay that rate and yet find enough sum from the sale of his produce to maintain himself. It has been already found that the average farmer is working on a deficit economy. To expect him to pay a rate of interest of $6\frac{1}{4}\%$ per annum on loans is itself more than what he could pay out of the profits of agriculture. Thus the society is in a dilemma. While it has to charge high rates to build up a reserve as protection for bad seasons, the members are not in a position to bear those high rates. The only way out of the difficulty is improvement in the methods of agriculture and increase in the price of agricultural produce by Government measures.

Even as it is, the rates of interest charged in Madras are lower than in many British Indian Provinces during the year 1936-37.

		On borrowings %	On lendings %
Bombay	..	6 to 8	$9\frac{3}{8}$ to $12\frac{1}{2}$
Punjab	..	7	$9\frac{3}{8}$
Bengal	..	$9\frac{3}{8}$ to $12\frac{1}{2}$	$9\frac{3}{8}$ to $15\frac{10}{16}$
United Provinces	..	8 to 12	10 to 15
Central Provinces	..	6	9
Burma	..	$6\frac{1}{4}$	12
Madras	..	6	$7\frac{1}{2}$

Societies should be very careful that they do not re-lend collections from members or re-lend collections made in advance from rich members; for societies are financed by central banks and the Provincial Bank which in turn take deposits from the general public for one or two years. If the central banks fail to repay the deposits from the public on due dates, the credit, not only of these banks but of the movement, will suffer. So it is a fundamental principle of co-operative societies that collections made should not be re-lent, but should be sent to the central banks immediately. Strict punctuality should be observed by members in the repayment of loans. Each member should feel that it should be his sacred duty to meet his obligations to society. But slackness on the part of members has increased overdues. The problem is now to collect the overdues and give new life to the movement as a whole. This problem of overdues and the causes leading to them will be discussed in a later section.

Cases often occur when in the grant of loans, a borrower's repaying capacity is misjudged or when the income expected is not actually realized with the result the member is unable to pay the instalments fixed for him. Such cases require either the revision of the instalments or extension of the period of payments. Revision of instalments could be done only with the permission of the local union and the central bank to which the society is affiliated. Extension of the period of the loans can be granted only on satisfactory reasons, e.g., complete failure of crops, and with the approval of the general body of the society and the local union. If it is proved that a borrower has acted improvidently in the use of loans, no extension is granted. The case of each individual must be decided on its merits. Societies when they determine to extend the period of a loan to a particular individual, should first get the permission of the central bank to extend the loan correspondingly. If the bank grants the request of the society, the panchayat should meet again and record a formal resolution confirming the sanction of the extension or modifying it to the extent necessitated by the decision of the central bank.

If a member defaults in the repayment of instalments for more than three successive months, the by-laws require that the accounts of the borrower shall be closed and steps taken without delay to recover the amount. The Panchayatdars should visit the members or send for them in the first instance and ask the members to pay their dues without further delay. The sureties must also be reminded of their responsibility in the collection of the loan. A defaulting member may be induced to pay by being summoned before the general body. If all these measures fail, the society must institute proceedings against the member under the arbitration rules or in the civil court. After decree a notice should be sent to the defaulter intimating him that if the dues were not paid, the decree would be sent for execution. When the dues were not still paid the decree should be executed at once. The Panchayat should take particular care to see that no bond gets time-barred. Panchayatdars are held personally responsible for any neglect on their part which results in overdue loans becoming time-barred. In the case of demise of borrowers, steps should be taken to recover the loans outstanding against them or transfer them to their heirs without impairing the security given by the deceased members. When a surety is dead, proper steps should be taken to get the loans repaid by the borrower within the time fixed or get the borrower to produce a fresh surety. The society should send quarterly report of the position of overdues to the union and the central bank. At least once in two weeks, the society

is required to send to the local union a statement of the demand, collection and balance of loans due from its members.

The forms of security that are accepted by a village society are personal or mortgage based on the pledge of movable or immovable property. Loans are also given on the joint and several responsibility of the borrowers and one or more members standing as sureties. This is suitable for short term loans only. The importance of sureties lies in the fact that they are responsible for seeing that the principal debtor pays his debt at the proper time. The security bond given by a surety can be in force only for three years. Hence it is desirable to restrict the sureties to loans of short periods. In the villages the pledge of movable property consists usually of loans on produce. Regarding the security on the mortgage of immovable property, societies do not take a second mortgage of property because of the difficulty in proceeding against such property. In case the borrower is joint owner of a property he is mortgaging, the co-owners should be insisted to join in the execution of the bonds to the society. This security is used by the society for most of the intermediate loans. Long-period loans on mortgage are not suitable for the village credit societies. In this Presidency separate institutions are created for the grant of long-term loans on the security of lands.

(iv) *Nature of Liability*

The societies first organized in Madras were based on limited liability.* Gradually by persuasion, they changed over to unlimited liability. The virtues of unlimited liability have been praised by Nicholson. The Famine Commission of 1901 insisted on unlimited liability. According to the commission "the feeling of joint responsibility induces each member to exert himself to the utmost to safeguard the common interest, it compels caution in the distribution of loans to members and causes them to hesitate over the introduction of any new members likely to cause loss to the association by unpunctuality or backwardness in making payments". The Commission added "It remains to be seen whether the principle of limitation by guarantee will not be equally efficient and more acceptable". As the ryot's property is usually small, he cannot get easy credit. If the ryots combine, each pledging his whole property on behalf of the combined credit, credit is easily available which is worth the combined property of all the members. Moreover each member will exert his pressure on the borrower to repay and this will enhance the chance of repayment in a society. The co-

*See: Presidential Address: The Twenty-fourth Madras Provincial Co-operative Conference. By Dr. B. V. Narayanaswamy. (I. C. R. Oct.-Dec. 1941, page 610).

operative credit based on unlimited liability is personal in nature and essentially short term. The guarantee however is that members of a society, on its liquidation, shall be jointly and severally responsible for all obligations and make good its losses first from the shares subscribed and then to the extent of their property. Thus the unlimited liability places a duty on each member in his own interest and those of other members to keep himself informed of the affairs of the society. Unlimited liability society requires a village society to operate within a compact area in which all the villagers are well known to one another. Admission to such a society should be restricted to honest and hard-working men. The society should secure a close supervision over the employment of loans by members to useful purposes. As loans are given on personal suretyship there is some sort of mutual control over the use of the loan and repayment of it in due time. It is required to build up a reserve fund of the society and this fund is intended to meet any unforeseen losses incurred by the society. Another important provision is that in the case of default by a member the society may have a prior claim on certain classes of property belonging to the member.

The MacLagan Committee was of opinion that the unlimited liability should be retained. In its opinion unlimited liability has constituted "an important factor in the confidence reposed on societies both by the central institutions inside the movement and by the joint-stock banks outside it". Almost all the provincial banking enquiry committees came to the conclusion that the merits of unlimited liability were so great that they outweighed the disadvantages. The Central Banking Enquiry Committee says "*Experience has shown that the protection to creditors is ample, and this mainly accounts for the readiness with which the public invest their moneys in co-operative banks. It is true that the unlimited liability does not carry with it an obligation against alienation and if a member having acknowledged his unlimited liability to his society proceeds to encumber or dispose of his material possessions, the security to depositors will protanto be diminished. In practice, however, there are many safeguards against recourse to such dishonesty, which entail prompt steps being taken to recover any outstanding loan and to expel the member...co-operators find that with the observance of these precautions, and the restriction of loans to members selected for their honesty, the unlimited liability is of great practical value in raising and dispensing co-operative rural credit, instead of being a danger or a

*The Indian Central Banking Enquiry Committee Report, p. 120.

snare. We have, however, no objection to limited liability societies being encouraged in places where the co-operative movement cannot make a great head-way under the unlimited liability system." The criticism of societies based on unlimited liability is discussed under the section "Defects of the Movement". The following statement will however give an idea of the enforcement of unlimited liability by the liquidators during the last few years:—

Statement showing the enforcement of unlimited liability in liquidated societies, from 1933-34 to 1937-38*

Year	Number of societies under liquidation at the end of each year	Number of societies in which unlimited liability was enforced during the year.	Number of unlimited contribution orders passed during the year	Total amount of contribution orders	Amount collected out of contribution orders passed upto 30th June, 1938	Amount written off out of contribution orders
				Rs.	Rs.	Rs.
1933-34	1,307	64	663	240,157	14,275	9,379
1934-35	1,360	68	1,010	133,096	18,334	2,986
1935-36	1,454	78	1,459	153,180	16,498	2,212
1936-37	1,380	109	1,478	207,305	42,588	11,030
1937-38	1,379	120	1,720	229,884	31,086	8,202

The above statement shows an increase in each year in the number of societies in which unlimited liability was enforced. There is also increase in the number of unlimited contribution orders and in the total amount. The amount collected out of contribution orders is only a small proportion to the total amount of contribution orders. Thus in spite of the vigil that is expected of members in an unlimited liability society, the number of societies in which unlimited liability was enforced increased year after year. The poor collection of amount out of contribution orders is discouraging. It is also interesting to note

*Report of the Committee on Co-operation—Evidence, Vol. II—p. 494 B.

that in thirteen districts during the years 1935-36 to 1937-38 central banks wrote off the loans without enforcing unlimited liability:—

*Name of District.	Number of Societies.	Amount Rs.
Anantapur	1	1,186
North Arcot	6	2,278
South Arcot	1	298
Coimbatore	3	739
Cuddappah	2	1,957
East Godavari	4	8,567
Kistna	7	4,438
Kurnool	2	551
Madras	2	2,083
Nellore	1	56
Salem	5	4,482
Tinnevely	1	141
Malabar	7	15,360

It is also found from the information of officers to the Co-operative Department that some members alienated their properties surreptitiously for fear of enforcement of unlimited liability. Some of these cases roughly for three years are 191 in Chittoor, 20 in East Godavari, 13 in Madura, 157 in Ramnad and 165 in Trichinopoly.

(v) Management

The Management of a village credit society rests ultimately in the general body which comprises all the members of a society. The detailed administration of the society is left to the Panchayat since it would be very difficult for an unwieldy body to attend to the minute details of the society. The Panchayat is only an agent of the general body and should carry out all the instructions of the general body. Each member should understand the general principles of co-operation and must feel the responsibility as a member. It is expected of each member to keep watch over his fellow member and report to the general body any action of a particular member which would prove

dangerous to the society. All the members should attend the general body meeting regularly and place at the disposal of the society knowledge which may be useful to it. The special powers vested in the general body are “the election and removal of Panchayatdars; the consideration of the annual report due to the Registrar of Co-operative Societies; the consideration of the audit report; the amendment or repeal of any existing by-law and the enactment of a new by-law; the expulsion of a member; the consideration of any complaint which any individual member may prefer against the panchayat; the consideration of the returns that may be prescribed by the local Government; the grant of certain kinds of loans to the members of the Panchayat and to their relations and dependants; the election of delegates to the local union or central bank; and the affiliation of the society to, or its disaffiliation from, a local union or central bank”.*

It is the duty of the members to keep in touch with the transactions of the society in detail. A complete list of outstanding loans should be read out at the general meetings and this will facilitate the members to have a knowledge of the work of the panchayat. The by-laws have hitherto provided that the general meeting shall be held at least once a year for the conduct of business and that the panchayat may convene a meeting of the general body whenever necessary. It has been laid down that the general meetings should be convened in accordance with a general resolution of the panchayat, or of the general body and whenever the local union or the Registrar desires to address the members.

The managing committee or the Panchayat is a small body of men consisting of at least five members including a President and one or more Vice-Presidents, a Secretary and in some cases a treasurer. It is very important that only men of character and ability should be chosen to this position since the entire management of the details of the society's work is in their hands. The Panchayatdars should be very honest in the matter of dealing with money and should deal in an impartial manner with the granting of loans to members. No member who is in default to the society for more than three months could be elected to the Committee. Nor should a member of the Committee who is in default to the society for a period exceeding three months continue to be a member of the Committee or represent the society in another society and vote.

*The Madras Co-operative Manual, Vol. I, 1937.

The Panchayat can hold office usually for one year, but can be replaced by a new panchayat whenever the general body wishes to do so. It is said that this would give an opportunity for the general body to select new panchayatdars. The chief duties of the Panchayat contained in the by-laws are—

- (1) to admit members and allot shares to them;
- (2) to raise local deposits or to borrow money from the Central Bank;
- (3) to decide to whom loans should be given, the period of repayment and to recover the loans from members at the proper time;
- (4) to summon general meetings;
- (5) to arrange for the maintenance of proper accounts of the transactions of the society;
- (6) to correspond with the Registrar and others on the business of the society;
- (7) to act as the agent for the members in arranging for the joint purchase of their requirements or the joint sale of their produce;
- (8) to induce members to be thrifty and to put funds into savings deposits, and
- (9) to do all other duties that are necessary to carry out the objects of the society in accordance with its by-laws.

The Panchayat is expected to act as a joint body. From time to time they should scrutinise the security for loans and the manner in which the loans are used. They should consider themselves responsible for the punctual repayment of loans and should meet frequently, preferably on a fixed date in the week. The Panchayat elects the President and the Secretary. The President is considered to be the general spokesman of the society and presides over the general meeting and the Committee meeting. The Secretary carries out the orders of the society and the President and generally keeps the accounts of the society. For this purpose the secretary should be literate. Later on it will be pointed out how in a society an illiterate secretary was carrying out the business very shabbily. The President will be the ex-officio treasurer and have the custody of all properties of the society.

The services of the Panchayat should be gratuitous since it is an honourable work done for their small remuneration to their secretaries. Under Section 35 of the Co-operative Societies Act, there are two kinds of remuneration, one for clerical work done by the secretary and the other for any special service, that is, good collection and management by the Panchayatdars. Payments for clerical work should be made out of general funds, and for special work from the net profit after one-half has been carried over to the Reserve Fund. Remuneration to Panchayatdars of societies is subject only to the sanction of the general body in accordance with the by-law.

(vi) *Financing Institutions of Primary Credit Societies*
Origin and Management

In India where the capital raised by primary societies locally is insufficient, higher co-operative financing agencies are necessary. The district central banks and the provincial bank in the Madras Presidency are devised to attract funds required for the rural and urban primary societies. The Madras Central Urban Bank registered on 19th October, 1905 was the first bank established to find money to finance societies in all parts of the Presidency. Slowly central banks were established in district headquarters and these banks were identical in principle and working to the M.C.W.B. and attracted deposits from the members in their area. As the movement progressed village societies began to exhibit a considerable amount of self-reliance and a strong desire to participate in the management of their financing banks. Thus the first banking union was formed with headquarters in Madura called the Madras Ramnad Central Co-operative Bank Limited. The chief feature of this financing bank was that it was primarily composed of societies financed by it though individuals were also admitted as share-holders. The societies had a number of seats in the bank and had a substantial voice in the management. Meanwhile central banks also threw open their membership to societies. Thus at present there are 31 district central banks in the Presidency and one Provincial Bank with headquarters at Madras and these are the primary sources of capital to the agricultural credit societies. The Madras Provincial Bank is the outcome of the M.C.W.B. which gradually withdrew financing primary societies when district central banks sprang up in almost all districts. The Provincial Bank is the federation of all central banks with individual share-holders also. Its business is mainly to lend to the Central Banks which are in need of money. Inter-lending between central banks was stopped.

It has been suggested that the ideal form of co-operative financing bank would be one in which only societies are included as members. But this Utopia of a borrowers' central bank is a distant ideal. As long as deposits come from the Urban and non-agricultural middle classes, individuals should be represented on the board of management. Moreover, a bank run entirely by borrowers might not command the confidence of the investing public, particularly when the members are agriculturists. The existing system of combining the ryot borrower with the townman with a knowledge of business is a very satisfactory arrangement. The representation of individuals and societies in the financing institution should be equal so that there may not be the domination of the one over the other. Now the societies being in vast majority dominate at general meeting. The management of the bank is vested in a Board of Management which is responsible for the entire admission of the bank. The Board consists of representatives of individual share-holders and of societies owning shares. The societies are represented through their local unions. Generally most banks have agreed to two society representatives to one individual on the Board, which is limited to 21. Except in some societies in which representatives of individual shareholders are elected at the general meeting of the bank, they are generally elected only by the individual shareholders. One of the recommendations of the Townsend Committee is that Central banks should be allowed to coopt to the board of management persons with special knowledge, who should not have votes, and it is in pursuance of this recommendation that some of the banks have made provision in their by-laws for co-optation. In the model by-laws of central banks, there is a provision for the co-optation of one or more persons of experience in co-operation or banking on the boards of management of central banks. There are at present co-opted directors in six banks (Cuddalore 1, Conjeeveram 1, Rajamundry 2, Cocanada 1, West Godavari 1; Madras 1). In its preliminary report, the Reserve Bank remarked in connection with the improvement of co-operative movement "In the first place we consider that there should be more practical bankers among those in control in each province. The disabilities under which the co-operative movement is at present labouring are possibly attributable to this deficiency more than to any other cause. It is also essential that the co-operative movement should be brought into closer contact with commercial banking. Local banking and business talent should, where possible, be utilized to a greater extent than it is at present". As representation of commercial interests on the boards of central banks will bring the neces-

sary commercial skill and ability into the management and would enable the banks to raise sufficient capital from the public and ensure better business methods, it is desirable that all central banks co-opt such experienced men as members of the Board.

Area of operation

The area of operations of a central bank in this Presidency is confined to a revenue district but Vizagapatam, Tanjore, Ganjam and Kistna have two banks in each and East Godavari has got four. The Srivilliputtur Co-operative Banking union has jurisdiction only over two taluks of the Ramnad district, the remaining portion being served by the Madura-Ramnad Central Co-operative Bank. It has been urged by some that central banks operating on a wide area lose control over the member societies and are not able to see that their investments are sound. So central banks of a smaller compact area than a revenue district are urged. Another method of establishing closer contact is to establish branches of central banks in mofussal centres. But the existence of more than one central bank in a district is an inconvenience rather than an advantage; it is a source of weakness to the movement and is not conducive to financial strength. For example if one small bank fails, it will have a bad reputation on the movement as a whole. Moreover numerous small banks will increase the overhead charges. Again a big central bank operating in a wider area has got the opportunity of selecting its members from a wider area. The central bank gets reports of the supervision societies by the local union and the inspectors of the Department and hence the charge of lack of control over societies over a wide area does not hold good. If the information received about societies is not sufficient, the central bank can call for further information from societies and satisfy itself. The Maclagan Committee and the Central Banking Enquiry Committee are of opinion that area of operations of central banks should be over large areas with a good number of societies affiliated to them. The following statement* will show how the banks of East Godavari are dwarfs when compared to big banks at Conjeevaram, Coimbatore and Vellore.

*Prepared for the Report of the working of Co-operative Societies, 1937-38.

Name of Central Bank.	No. of societies affiliated as on 30th June, 1938.			Amount of loans advanced and outstanding as on 30th 1938. (Lakhs) Rs.
	Agricultural societies.	Others.	Total.	
Anantapur ..	370	30	400	12·55
Vellore ..	577	61	638	19·20
Cuddalore ..	494	67	561	13·94
Hospet ..	202	33	235	7·90
Conjeevaram ..	648	30	678	17·68
Chittoor ..	219	28	247	5·75
Coimbatore ..	587	59	646	37·20
Cuddapah ..	122	37	159	7·21
Cocanada ..	133	15	148	4·08
Rajahmundry ..	34	17	51	1·86
Ramachandrapuram ..	86	6	92	7·46
Amalapuram ..	109	8	117	11·63
Ellore ..	268	24	292	15·34
Guntur ..	274	32	306	11·10
Mangalore ..	240	57	297	8·40
Masulipatam ..	257	36	293	19·70
Bezwada ..	159	18	177	9·97
Kurnool ..	190	35	225	6·30
Madras ..	..	104	104	3·87
Madura-Ramnad ..	408	79	487	24·65
Malabar ..	368	73	441	9·33
Nellore ..	341	39	380	8·54
Srivilliputtur ..	139	12	151	4·42
Salem ..	434	73	507	21·00
Kumbakonam ..	263	36	299	11·13
Tanjore ..	212	30	242	9·38
Tinnevelly ..	412	55	467	8·56
Trichinopoly ..	455	47	502	18·82
Vizianagaram ..	391	63	545	13·38
Chicacole ..	126	10	136	3·77
Total ..	8,158	1,214	9,732	354·12

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Agriculture and Food Problem in Madras*

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Like all other parts of India, Madras is an essentially agricultural province and over 80% of her population is almost entirely dependent on cultivation for livelihood. The Madras cultivator is a hard working man and knows his job fairly well. He has begun to realise the advantages of improved methods of cultivation and is willing to adopt any improvement provided it does not involve the payment of cash for any purchase. His economic condition is very unsatisfactory and he suffers from the disadvantages of fragmentation of holdings and want of subsidiary industries such as dairying, poultry-keeping, sheep fattening, etc., to occupy his spare time in slack seasons. He now moves in a vicious circle; Unless his economic condition is bettered he cannot produce better crops and unless he produces better crops his economic condition cannot be improved. In any case, on a cultivator of this kind we depend for all our industrial and food crops and it is he who is

*Valedictory Address delivered at the Cosmopolitan Club, Annamalai University, on 13th February 1942.

now called upon to increase the production of food crops to make good the shortage due to the fall of rice imports into our province from Burma and other foreign countries. Let us now examine the war time agriculture of our province.

The total area under cultivation in the province is about 3 crores and 60 lakhs of acres of which about 86 lakhs are under irrigation while the rest of the area is dependent on rainfall. Nearly three-fourths of the total cultivated area or about 2 crores and 75 lakhs of acres are under food crops like paddy, cholam, ragi, different kinds of pulses, etc., and the remaining area, namely about 85 lakhs of acres is devoted to industrial crops like cotton, groundnut, tobacco and sugarcane.

Madras stands in a very fortunate position in regard to agricultural raw materials, though it has very few industries worth mentioning besides spinning and weaving. Most of the provincial governments and States are now seriously concerned with the difficulty of finding markets for their short-staple cotton and I am sure that most of you are already aware of the amount of attention which the Government of India are paying to this question in recent months. The Government of India have been seriously considering ways and means by which the grower of short staple cotton could be helped to obtain reasonable prices for his cotton and have even imposed recently an import duty of 1 anna per pound or Rs. 25 per bale of cotton imported from other countries with a view to utilise this income for the benefit of the cultivator. Japan which was our best customer for this cotton has now become involved in war against us and is no longer in our market to purchase this cotton. Japan's takings of our cotton amounted to about 15 lakhs of bales every year of mostly short-staple cotton and with the loss of the Japanese market the Indian cotton grower is at his wits' ends. Fortunately for us in Madras, the problem of short-staple cotton is of little consequence. The production of our cotton of all types is about 5 lakhs of bales and not more than 20 thousand bales of this cotton is of the type which is under serious consideration of the Government of India. Even of this small quantity as many as 19 thousand bales are of special quality, being red-coloured and have as good a demand as any staple cotton. The quantity of cotton that comes under real inferior short staple cotton is only about one thousand bales which are produced in the Vizagapatam district. The staple lengths of our cotton varies

from about $3/4$ to $1\ 1/8$ inches and the best of our cottons are capable of spinning up to 60s. Our best cotton is almost entirely consumed by our local mills and the rest has a fair demand both in Madras and other provinces in India. Thus our cultivator is quite safe so far as cotton is concerned.

Our position of groundnut is, however, unsatisfactory. Madras is the largest producer of groundnut and has about 36 lakhs of acres under this crop. About 50% of our groundnut was consumed in India prior to the war and all the rest was exported to foreign countries. But due to want of shipping space there was a big fall in exports last year with a consequent crash in prices. Luckily the Food Ministry in England came to our rescue by offering a suitable price for a fairly large quantity of this commodity. This timely assistance, coupled with the reduction of area under groundnut upto about 30% due partly to intensive propaganda by the Revenue and Agricultural Departments and partly to the unfavourable season, has been very helpful for maintaining the present level of prices. But the danger is not over. If the cultivator thinks that the present prices would be maintained and he increases the area under production, he will have again to face lower prices. He is, therefore, well advised to take note of the propaganda by the Revenue and Agricultural Departments and adjust the acreage. Every effort is, however, being made by Government to increase the local consumption of groundnut and if the cultivator co-operates with the efforts of Government by reducing the area he may not have cause for repentance. The area so reduced can very well be utilised for food crops which are now selling at a fair price. There is, of course, enormous scope for increasing the consumption of groundnut in India provided a suitable lamp is designed for using this oil in the place of kerosene for the purpose of lighting. A lamp, in fact, has been prepared but I am not sure if it is good enough for putting on the market.

In the case of tobacco, Madras holds a virtual monopoly for the cultivation of Virginia or cigarette tobacco. This crop has a fair market even now and requires no special attention except in the direction of the improvement of its quality. Steps have been taken for its improvement through better cultivation and the elimination of pest attacks and it would be enough if the cultivator does not unduly increase the area under this variety. Local varieties of tobacco are usually consumed in this country itself and require no particular attention for the present.

One other crop that is likely to affect the agricultural economy of our cultivator is sugarcane. The number of sugar factories in our province is too inadequate to deal with all our sugarcane but so long as there is a reasonable demand for jaggery there is no trouble with this crop.

So much for the commercial crops.

Now I should like you to turn your attention to food crops which are at present much more important than the commercial crops. I have already mentioned that the average area under food crops in our province is roughly 2 crores and 75 lakhs of acres. Of this area, about 85 lakhs of acres are under semi and fully irrigated paddy: but if the second crop also is taken into account the area under paddy would come to a little over 1 crore acres. The remaining 1 crore and 90 lakhs are under dry unirrigated crops like cholam, cumbu, ragi, etc. The normal annual production of all these crops is about 80 lakhs of tons of cleaned grain. Three-fifths of this quantity or 50 lakhs of tons are rice and the remaining 30 lakhs represent all other grains. This total quantity is not enough to feed our population in normal years and we are therefore obliged to import rice from Burma, Siam, etc., to the extent of 9 lakhs of tons per year. But we also exported our finer rice to Ceylon, Mysore, Hyderabad and Bombay roughly 2 lakhs and 50 thousand tons. Our net imports were, therefore, 6 lakhs and 50 thousand tons. Now we all know that the imports of foreign rice have very greatly diminished and are likely to stop altogether. The question, therefore, is "How can we meet this deficit and what steps have been taken by the concerned Government Departments to produce more food crops not only for ourselves but also to meet the demand of our army abroad." There are two ways of increasing the production, viz., by extensive and intensive methods. That is to say, by increasing the area under food crops and by increasing the yield per acre.

Considering first the question of extensive cultivation it should be clearly understood that in our province there is little or no waste-land available which can be brought immediately under cultivation without irrigation. Every acre of land that can be cultivated is already under cultivation except the strips of land adjoining the railway lines and the railway stations. Government have already taken steps to utilise these lands for growing food crops as during the last year. The only possibility is to divert for food crops a portion of the land which was hitherto

cultivated with commercial crops. I have already mentioned the steps taken in this direction by reducing the area under groundnut to the extent of 10 lakhs of acres last year. Information is not yet available as to what proportion of this area was utilised for food crops. It is possible that at least 30% of this area or about 3 lakhs of acres was devoted to these crops. This was what was achieved last year and propaganda will be continued for growing more food crops in the place of groundnut till the war is over.

The area under irrigated paddy also has, to a little extent, increased due to the facilities offered by the Irrigation Department for more water. The total irrigated area of the province is, as I have already mentioned, about 86 lakhs of acres and including the second crop it comes to about 1 crore and 2 lakhs of acres. The increase due to the efforts of the Irrigation Department is about 5 lakhs of acres so that the total acreage under paddy in the year 1940-41 went up to 1 crore and 7 lakhs of acres.

For intensive cultivation, dry lands do not offer much scope as the success of cultivation in these lands depends upon rainfall which is often uncertain and precarious particularly in localities where this sort of cultivation is most important, e.g. Ceded Districts. Further, the methods of cultivation in dry land districts have already reached a fairly high level of efficiency and the only possible improvements that could be suggested are the distribution of improved implements, better yielding seed and proper preservation of cattle manure. Propaganda has already been going on in these directions and seed and implements are always available for sale in agricultural depots and with the approved cultivators and implement manufacturers.

If we think of intensive cultivation, our thoughts naturally turn to wet or irrigated lands, for it is in these lands that we can have control over moisture in the soil. Moisture is the main factor on which the success of agriculture depends and wherever, therefore, there is the possibility of irrigation, the cultivator should be able to raise the crop yield if he only takes the necessary trouble.

The average yield of paddy in our province is estimated at 1,200 lb. per acre. This is low compared with the yield in other paddy growing countries. But the low yield is due to a number of adverse factors which cannot be easily remedied. The following are the factors that affect adversely:

About one-third of the total irrigated area (or acres) is grown with paddy under semi-irrigated conditions for want of sufficient water-supply. Under this system the crop is sown with the help of rains and allowed to grow like any dry crop such as cholam up to a certain period and it is then irrigated and treated as an irrigated crop. The yield obtained from this crop is naturally low. Paddy is essentially a wet crop and gives satisfactory yields only when it is grown as a wet crop from the very start.

The present practice of annual lease is another cause for low yields. The landlord cares very little beyond his annual income and is not interested in the improvement of the land. The tenant in turn is concerned only with extracting as much from the land as possible with little or no application of manure. The result is the deterioration of the land with a fall in its yielding capacity. This evil can be remedied only if the minimum period of lease is extended and the landlord is made to pay a share of expenditure on any improvement effected on the land by the tenant. All this does not, however, appear to be possible without necessary legislation and there is, therefore, no use of discussing this point now at any great length. The only thing that can be done is to induce the cultivators to use better seed and adopt improved methods of cultivation.

The third cause is the necessity for cultivating short duration varieties which are by nature low yielders. These varieties are grown in many localities for want of sufficient water-supply for irrigation. No such varieties are grown in other countries where there is only one season for paddy crop and where only long duration varieties are cultivated. Long duration varieties have a long period of growth and usually give a much heavier yield. In Madras also, wherever long duration varieties are grown, their yields compare quite favourably with those in other countries.

The Department of Agriculture has produced over 70 varieties of improved seed suitable for different soils and seasons all over the province. They yield up to 15% more than local paddy besides being superior in quality; and the seed is within easy reach of every cultivator. These varieties are now grown over an area of more than 20 lakhs of acres or one-fourth of the total paddy area. If the remaining 75% of the area also is planted with these varieties there will be a general

increase of paddy yield by at least 7-8%. These new varieties have also the capacity of responding better to manurial and cultural treatments than local varieties.

The cultivator is unfortunately still in the habit of using a high seed rate per acre which results not only in waste of seed but also in lower yield. The local seed rate in most of the paddy growing areas varies from 50 to over 100 lb. or 20 to 40 Madras measures per acre. The best results are obtained by reducing the seed rate to about 25 lb. or 10 M.M. per acre. This saving in seed rate alone comes to about 2% of the total yield of paddy all over the province.

One other defect in the local method of cultivation of paddy is raising nurseries very thick and transplanting the seedlings in bunches of 10-12 into each hole. The cultivators sow 50-100 lb. of seed in a small plot of 5-6 cents. The result is that the seedlings are unhealthy and undergrown. When these seedlings are planted in bunches they grow slow and also yield low. The best way of raising seedlings is to sow 25 lbs. or 10 M.M. in a 10 cents plot and transplant the seedlings 2-4 per hole at a distance of 4-10 inches depending upon the soil fertility. If the land to be transplanted is fertile, wider spacing is necessary to allow the plant to tiller freely. In poor land close spacing is better.

The most important part of paddy cultivation is manuring and it is very necessary that every cultivator should know why it is so important. Any crop requires for its proper growth and yield of grain, nitrogen, phosphoric acid and potash in large quantities. It requires other substances also such as Calcium, Magnesium, Sulphur, etc., to a small extent; but they are present in such large quantities in the soil that they need not be replaced in the form of manure. A good crop of paddy removes from the soil 48 lb. of Nitrogen equivalent to 600 lb. of ground-nut cake or 2 cwts. of Ammonium sulphate, 23 lb. of Phosphoric acid equivalent to 1 cwt. of bone meal or superphosphate and 43 lb. of potash. This will give an idea of the amount of manurial substances removed by paddy crop each time and it is only a matter of commonsense that unless these substances are returned to the soil in some form or other the yielding capacity of the land goes down year after year. We are, however, lucky that our soils are rich in potash by nature and it is unnecessary to replace it except in Nilgiris where the soils are not so well furnished with this plant food. Thus the only substances that we should return to the soil are nitrogen

and phosphoric acid. But even of these two substances our soils contain a fair amount of Phosphoric acid and it is enough if bone meal or superphosphate is applied at the rate of 1 cwt. per acre to every alternate crop. It should also be understood that bone meal, if applied by itself does not respond well. It gives satisfactory results only when it is used in conjunction with green leaf or any other organic matter.

Nitrogen can be applied in the form of inorganic manure such as oil-cake, dried fish, green leaf, etc. or in the form of inorganic manure like Ammonium Sulphate. But the cheapest of all these is green leaf which the cultivators can grow in their own fields at a very little cost. A good crop of green manure grown in one acre of land is sufficient to manure 2-3 acres. Green manure is grown at present in our province over an acre of about 5 lakhs of acres and it has not been possible to extend it more widely for want of water supply. It does not ask for more than two irrigations, but it is found difficult to find water even for two wettings. Most of the green manure is at present grown by the aid of rains. The cultivator knows the value of green manure and is eager to grow it if water is available. But water is not available. Fortunately now groundnut cake is selling cheap and is not much beyond the reach of many cultivators. Vigorous propaganda was carried on during the past two years with the result that unusually large quantities of this manure were applied to the paddy crop. There is not much use in applying cattle manure to paddy crop. It gives better results when applied to dry crops. But if it is available and the cultivator has no dry land it can be used for paddy crop.

I do not think that I need dwell on cultural operations such as ploughing, weeding, etc., and every cultivator knows these operations. The only suggestion I could make is that there is a good deal of labour-saving if iron ploughs are used in place of country wooden ploughs. The number of ploughs sold during the last year due to the efforts of the Agricultural Department was over 7,000 which is a record figure.

Thus the important factors that contribute to the increase of paddy yield are, sufficient water-supply, high yielding varieties, low seed rate to raise healthy seedlings, transplanting of seedlings not more than 2-4 per hole at proper distance according to the fertility of the soil, use of iron ploughs and application of proper manures. These will raise our present yield, irrespective of the duration of the crop by not less than 25%.

Well, now you will naturally ask me "Yes. We quite understand what all you have said. We are now confronted with the shortage of rice up to 6½ lakhs of tons owing to the stoppage of rice imports from Burma and what are your achievements to fill this gap?" I am glad to be able to tell you that due to the intensive propaganda of the Agricultural Department and the increase of area under paddy cultivation, the yield of rice obtained in 1940-41 was about 6 lakhs of tons more than normal. We had to make up only ½ lakh of tons but imports received that year were greater than this quantity. The results of 1941-42 are not yet known but crop forecasts show that there is a fall in area under paddy crop by a little over 2% but the yield expected is about the same as last year. That is to say, our shortage is about ½ lakh of tons which is more than counter-balanced by the extra yield obtained from 3 lakhs acres of dry land as a result of the decrease in area under groundnut. Thus you find that there will be no shortage of food grains this year. There is also no reason to believe that the cultivators will slacken their effort if they are offered loans for the purchase of manures and seed and the Government are doing everything possible to help the cultivators.

A Criterion for the Purity of Bromine

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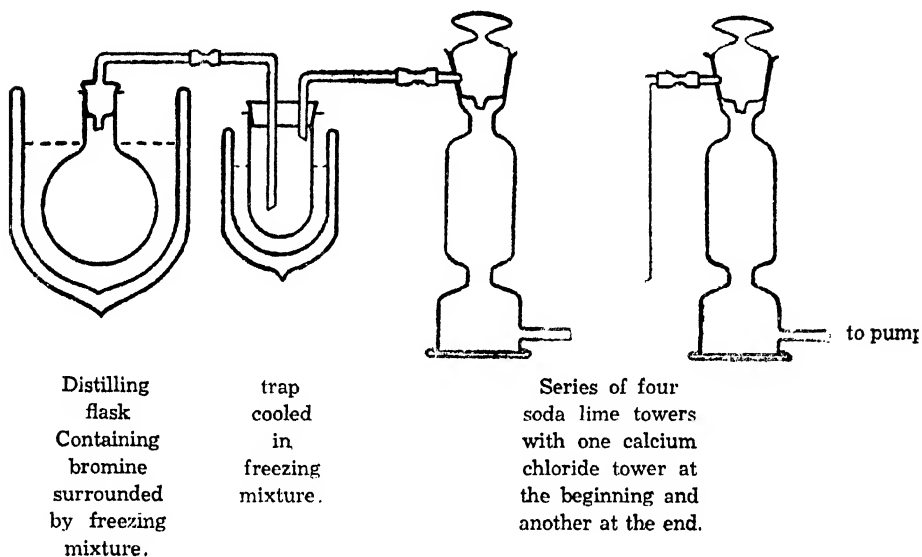
In the course of investigations on the Kinetics of the olefin-bromine reactions, it was found necessary to prepare bromine in a very pure state. Neither "A. R. Bromine" nor "Bromine distilled over sodium" gave satisfactory results and this was traced to the presence primarily of hydrogen bromide and moisture. After eliminating these, the bromine had to be tested for its purity. The reaction kinetic studies indicated that the induction period that is obtained may be used as a convenient criterion since this was highly sensitive to the impurities mentioned. With the same solvent and working at a constant temperature, the induction period for the olefine bromine reaction was found to be the same for any one olefin within the limits of experimental error. This criterion has served in our laboratories as a safe guide in determining the purity of bromine.

Experimental

Preparation of pure bromine:—A. R. bromine was shaken with concentrated sulphuric acid (A. R.) and left in contact with the acid for three hours. The process was repeated twice, the bromine being finally kept over concentrated sulphuric acid (A. R.) overnight. The bromine layer was carefully tapped into a clean dry flask and repeatedly frozen and melted, carefully avoiding access of moisture. The fractions melting first and freezing last were eliminated, about 25% being lost thus. The bromine thus obtained was distilled in an all glass apparatus over fused A.R. potassium bromide, large head and tail fractions being rejected. A further 25% was lost in this process. The middle fraction was taken in a distilling flask in a vacuum system frozen in solid carbondioxide and methanol and the pump started. The evacuation was carried on for about 6-10 hours and the residual bromine freed thus from moisture and hydrogen bromide was fractionated the middle fraction alone being

taken. The bromine is stored in clear dry amber coloured bottles in a desiccator.

Testing for purity:—A M/30 solution of the bromine in pure glacial acetic acid purified by the method of Orton is allowed to react with M/30 crotonic acid also in acetic acid, in the dark at 35.5°C . An induction period of 24 minutes is invariably obtained.



A Note on the Orienting Influences in Benzene

By

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The systematic study of substitution in benzene derivatives has brought out in recent years a close correlation between the nature of the substituent and its orienting influence. Hammick and Illingworth³ have brought out the influence of the position of components of a substituent group on orientation but this generalisation is more or less of an empirical nature. Sutton and coworkers⁶, from an examination of the dipole moments of a series of aliphatic and of aromatic compounds have evolved the orientation rule :

"If $\mu_{ar}-X-\mu_{aliph}-X$ is positive the compound is ortho para orienting and if the difference is negative, meta orienting". This generalization has been tested in a large number of cases considering for the purpose only reactions with electrophilic reagents. With nucleophilic reagents, the position should be reversed.

Careful investigation has revealed that apart from the position taken up by the new entrant group, a substituent also affects the relative velocity of reaction and the relative proportion of the different isomers formed in the course of the reaction. Ingold and coworkers⁴ have demonstrated this for nitrations at ordinary temperatures. Recently, Eyring and Ri² have shown that the relative velocity of nitration as well as the proportion of isomers are closely related to the dipole moment of the compounds.

It must be mentioned at the outset that all dipole moment measurements as well as orientation studies have been mostly at ordinary temperatures. Both Sutton's generalization and Eyring's calculations based on the kinetic studies of Ingold on aromatic nitrations hold good generally for ordinary temperatures. For higher temperatures, quantitative data are not available for nitrations, but the limitations of both conclu-

sions are clearly brought out by examining experimental data on other electrophilic reagents. Wibaut and coworkers⁷ have examined carefully the chlorination and bromination of halogeno benzenes and have obtained the interesting result that at high temperatures both the halogens become essentially meta orienting.

TABLE I.

Bromination of Bromobenzene and chlorination of chlorobenzene.

Temperature °C	% isomers with Bromoenezene			% isomers with Chlorobenzene		
	ortho	meta	para	ortho	meta	para
400	20	23	57			
450	20.5	54.5	25			
500	20.9	55.7	23.4	21	54	24
585	19.6	58.8	21.6			
600				15	60	24
630	18.9	59.9	21.2			

These results clearly lead to the conclusion that either Sutton's rule based on dipole moment values is untenable at higher temperatures or the dipole moment itself changes at higher temperatures. Eyring (loc. cit.) has shown that it is possible to calculate the dipole moment if the relative amounts of the ortho, meta and para disubstitution products are known. The relevant equations that he uses for the purpose are the following:

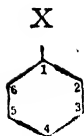
$$\frac{(\epsilon_p - \epsilon_m) \epsilon_n}{rD} = -kT \ln \frac{2x_p}{x_m} \quad \dots (1)$$

$$\frac{([\epsilon_o] - \epsilon_m) \epsilon_n}{rD} = -kT \ln \frac{x_o}{x_m} \quad \dots (2)$$

$$\mu = \epsilon_x (r_x + r_b) + (\epsilon_1 - \epsilon_m) r_b \quad \dots (3)$$

$$\mu_{ali} = -6\epsilon_m(r_b + r_x) \quad \dots (4)$$

$$(\epsilon_o) = \epsilon_p + \frac{\epsilon_1 - \epsilon_r}{15} = \epsilon_p + \frac{\epsilon_1 - \epsilon_m}{8} \quad \dots (5)$$



r_b = C—C bond distance in aromatic compounds.

r_x = C—x bond distance.

Using these and applying to Wibaut's results, the dipole moment values for bromo benzene and for chlorobenzene are found to be as in Tables II and III below. The available data for chloro benzene are not as accurate as for the bromo compound but the results are none the less striking.

TABLE II

Dipole moment of bromobenzene at different temperatures.

Temperature °C	μ debyes
Ordinary temperatures	—1.68
400	—1.72
450	—2.18
500	—2.22
555	—2.26
630	—2.29

TABLE III

Dipole moments of Chlorobenze at high temperatures

Temperature °C	μ debyes
Ordinary temperatures.	-1.54
500	-2.18
600	-2.21

It is significant that at the high temperatures at which these reactions have been carried out, the calculated values for the aromatic halogen compounds do not differ greatly from the observed values of moments for the corresponding aliphatic compounds at ordinary temperatures of the type chosen by Sutton for his comparisons. Plotting temperature against dipole moment it will be seen that the transition from an aromatic to an aliphatic value is not a gradual one. The change takes place sharply at a temperature which is probably characteristic of the halogen substituent.

Now, when one considers the genesis of the orienting influences in terms of the electronic theories of organic reaction the halogens belong to the group (I+T)^{4a}, the inductive effect as is well known, is essentially related to the state of polarization of the molecule and as such may be expected to remain constant over range of temperatures in which the molecule is stable; the tautomeric effect, on the other hand, is essentially a polarizability factor and as such temperature dependent. Where a group influence depends on both these factors or on the T effect alone, it is reasonable to expect that the dipole moment varies with temperature and with this assumption, Sutton's rule becomes generally applicable.

In interpreting the influence of temperature on the nuclear reactivity of the halogenobenzenes, two factors have to be borne in mind. A rise in temperature results in a general increase in the activity of all three positions, ortho, meta and para. Using a two dimensional formula, the proportion of molecules for which the kinetic energy is greater than

the energy of activation E is given by $e^{-E/RT}$. An examination of Table IV shows the rapid rate at which this increase takes place :

TABLE IV

E (kilocalories)	$\frac{e^{-E/RT}}{100} (T=27^{\circ}\text{C})$	$\frac{e^{-E/RT}}{100} (T=427^{\circ}\text{C})$	Ratio of second and third column.
30/)	ca 10^{-21}	ca 10^{-8}	10^{13}
20	9.0×10^{-16}	6.4×10^{-5}	10^{11}
17.5	2.2×10^{-11}	3.8×10^{-4}	10^7
15	1.4×10^{-9}	2.3×10^{-3}	10^6
12.5	9.5×10^{-8}	1.4×10^{-2}	10^5
10	6.5×10^{-5}	8.0×10^{-2}	10^3

For the reactions under consideration, however, no values of E are available but a close correlation though of a qualitative nature may be obtained by comparison with the additive reactivity of ethylene derivatives. Groups which activate benzene substitution are known to activate addition of bromine to the ethylenic linkage if one considers electrophilic reagents. For the addition reaction, the influence of an activating group leads to a diminution of the energy of activation¹ and the converse may be reasonably be expected for a deactivating group. Sherman⁵ has calculated the energy of activation for the ethylene bromine reaction to be 20.0 kilocalories and in the case of vinyl chloride and bromide this value is likely to be exceeded. For the substitution reactions of the type specified earlier, with chloro and bromo benzenes, an energy of activation of the same order of magnitude may be expected. Also, since the position that is most deactivated is meta to the halogen atom, substitution here may be expected to involve a higher energy of activation than in other positions and the influence of temperature arising from increased collisions and thermal activation will be most noticeable.

Though this large increase in the number of activated molecules may account for some increased substitution, this by itself cannot explain the apparent reversal in the behaviour of halogen in orientations. Considering the nature of the T effect, one has to conclude that in the region of transition, it ceases to be operative and the inductive effect leads to meta orientation. Before a proper explanation of this abnormality can be given

further data on other reactions and also the behaviour of other properties of the C—X link depending on polarizability with higher temperatures is necessary.

Other orientation rules not having a physical basis can be expected to hold good only to a limited extent and it is not surprising that they all fail in the present instance.

Summary

The electronic theory of benzene substitution has been given a physical basis recently and has been correlated with dipole moments. Experimental results at high temperature above 400°C require that either existing generalizations are not valid or dipole moments should vary with temperature in the case of some classes of compounds. An extension of Eyring's calculations shows that the latter is probably true.

REFERENCES

1. Anantakrishnan and Venkataraman: *Proc. Ind. Acad. Sci.* 1940, 12, 2.
2. Eyring and Ri: *J. Chem. Phys.* 1940 8,
3. Hammick and Illingworth: *J. C. S.*, 1930, 2358.
4. Ingold et al: *J. C. S.* 1938, 905, 918.
- 4a. „ *Chem. Reviews*, 1934.
5. Sherman: *J. Chem. Phys.* 1936, 4, 730.
6. Sutton: *Proc. Roy. Soc.* 1931. 133A, 668.
7. Wibaut: *Rec. Trav. Chim.* 1933, 12, 290.

Our Musical Heritage

By

M. L. SITARAMAN,

Part I

The music of the *Yajur Veda* has been handed down to us through posterity intact, without embellishments and without mutilations, by careful processes of faithful repetition. Clements⁵ gives the considered opinion according to Ethel Rosenthal^{13a} that "Indian music has probably undergone less change than any other during the past 2000 years." The chant is a monotonous tritone very carefully camouflaged from the earliest times. This trichord, as it may be styled in modern parlance, taken, usually two notes at a time has been sought to be interpreted for us by earliest Sanskritic, Buddhistic, Jain and Tamil scholars and by Bashyakaras including Sri Sankara, Sri Ramānuja and Sri Mādhva Acāriās. Seshagiri Sastri's¹⁶ most recent interpretation is quoted in N. S. Ramachandran's^{12a} research thesis.

It is not surprising as to how this simple *Yajur Veda* chant has, however, eluded rigorous analysis till now. It is well known that the mode of a group of notes comprising either a diapason or tetra chord could easily be identified. The trichord is relatively more difficult to analyse. We have also found that the trichord does not commence from the C. Major. *Yajur Veda* chant commences from the B. minor (Bb) and stops with the D minor (Db). Thus we can say that the religious music of the whole of the *Yajur* and *Atharva Vedas* can be described as the simplest but at the same time very perplexing, truncated raga in the key of the B minor (Bb).

Firstly nobody has up to the present measured the exact frequencies or the frequency ratios of the three notes. Measurement of frequencies of European musical scales has evolved a standard scale viz., the major diatonic scale or our Sankarābarana^{15a} and at least two chromatic scales^{8a} which, however, are not standard since they are not acceptable either to acousticians or to our Indian musicians. The first scientific Indian

musician was the late A. M. Chinnaswamy Mudaliar⁴ of the Madras Secretariat who in 1893 sought to extend European staff notation to the sacred songs of Sri Thiagaraja Ayyah in Telugu and to the sacred songs of Gopalakrishna Bharathi and of Vedanayagam Pillai in Tamil. I consider him as a genius since he was the first to anticipate the later theories of Sabesa Iyer¹⁴, P. Sambamoorthi^{15b} and C. Subrahmanya Iyer¹⁷, that the European major diatonic scale or diapason, was our *Sankarabarana* or a slight variation of the 29th *melakarta* of Venkatamakhin. Though Mr. Mudaliar opined correctly that our *Todi* derived from *Hanumattōdi* the eighth *melakarta*, took the D, E, A and B notes flat, he was unfortunately in error with regard to the frequencies and their frequency ratios. The rational numbers representing frequency ratios are called musical intervals. However, our measurement of frequencies for Indian ragas with improved technique though differing from Chinnaswamy Mudaliar's values, do not detract in the least from the boldness and originality of his views or the validity of his mode of reasoning. Another remarkable musician who sought to interpret our Indian and Carnatic musical scales is A. H. Fox Strangways^{7a}, who, I understand, was a leader of an orchestra in England. In his book "The Music of Hindostan" published in 1914 after touring India, he refers to A. M. Chinnaswamy Mudaliar's book^{7b}. Ethel Rosenthal^{13b} in her book, quotes very freely from the same source.

The first All-India Music Conference was held in Baroda in 1916^{13c}, under the patronage of the late Gaekwar of Baroda and considerable spade work in the classification of our ragas and modes has been done from 1928 to 1942. However, no exact measurement of frequencies for our Indian and Carnatic modes seem to have been undertaken, though in the vast amount of literature about Indian music, published in our press from 1928 and especially from 1937, by Swami Vipulanandaji¹⁹, Mahamahopadhyaya U. V. Swaminatha Iyer, P. Sambamoorthi^{15c}, C. Subrahmanya Iyer¹⁷ⁱ, N. S. Ramachandran^{12b}, Ramachandra Dikshitar¹¹, S. Subrahmanya Sāstri^{18a} and others, a relationship to the works of A. M. Chinnaswamy Mudaliar and A. H. F. Strangways can be established. For example, C. Subrahmanya Iyer and Sambamoorthi Iyer have tacitly accepted the theory of Fox Strangways with regard to Indian musical intervals and both (15 and 17 i & ii) quote A. H. F. Strangways to prove the validity of their deductions.

Coming to the second point as to how such a simple trichord in *Tōdi* could be so effectively coded, so as to escape detection, we must point

out that a musician whether vocalist or instrumentalist has till now been an artiste or artist only, and not a physicist or an acoustician. The Indian musicians, one and all of them, have learnt music only by the characteristically oriental processes of faithful repetition (*Santhai* and *Tiruvai*). In a recently published article in the *Times of India Weekly*, Bombay, it was pointed out by an unknown author⁹ that *Yukar*, the Veda of an aboriginal race, Ainus of Japan has been handed down for ages (2000 years) by processes very akin to the Indian processes of *Santhai* and *Tiruvai*. It seems that "to chant *Yukar* in its entirety requires several weeks" and that the Ainus or Ainu⁶ a tall and stalwart race "flat faced, copper coloured and hairy but of distinctly Aryan origin" have not cared to read or write. Also we have now in our midst two old vocalists, Mr. Lakshmana Pillai of Trivandrum and Mr. M. S. Ramaswamy Iyer of Madura. It is remarkable that both men at their old age have still preserved their carefully cultivated voice. Lakshmana Pillai teaches at present the modern *kritis* and *kirtanas* in our University by these same processes of faithful repetition and rehearsals.

To clinch a theory the modern scientist relies upon experiment and reproducibility of result. Also Dirac, a great Mathematician has pointed out that the scope of Physics is to take measurements. Physics has mainly relied upon ocular evidence and measurements for its progress. "What we can see, we can measure" has been its fundamental principle. It was Helmholtz⁸ in his classical book "On sensations of tone," who showed for the first time in Europe that physicists or acousticians can measure what is spoken or what we can hear. The fact that in preserving our Vedas and music, experiments, measurement and reproducibility of result have been the criteria of our forefathers, makes our heritage all the more precious for us. We can understand the loss of monetary heritage of an individual or of a nation but not the loss of the superb intellectual and artistic heritage of a nation, as ours is, based as they have been on the solid experimental foundations such as *Veena* or the *Yal* and upon faithful and almost religious rehearsals.

Clements⁵ studied theoretically the chant of the *Yajur* and *Sama Vedas* and musicians like Haug^{7c} and A. H. Fox Strangways⁷ also have studied them in India itself. For example, Strangways quotes Haug and Macdonell^{7f} in his book and also a sloka from the first chapter of the *Atharva Veda* beginning with "*Sam no de vir abiṣṭa ye* etc." Strangways agrees with the views of Clements and Haug but differs only

slightly from the Mimamsa of Macdonell, in the elucidation of the grace notes viz., *Udāttam*, *Svaritam*, *Anudāttam* and *Prachayam*, which are derivable from a tritone chant. However, it must be pointed out to the credit of these European scholars that they correctly recognised the *Yajur Veda* chant as a simple tritone melody. To Indian scholars on the other hand, these four grace notes have till now been a moot problem^{12c}. Also, the European scholars have concentrated their attention more upon *Sāma Veda* which according to them takes more notes of a diapason and therefore is relatively more easy to tackle. A. H. F. Strangways comes to the conclusion that the tune of *Sāma Veda* should be related to *Abōgi*, a raga in turn derived from *Karaharapria mela*. He quotes the views of Seshagiri Sastri¹⁶ of Mysore in this connection. P. Sambamoorthi, who I understand has had discussions with T. S. Sabesa Iyer¹⁴ ex-principal of our Music College, opines that the music of the *Sāma Veda* is related to *Karaharapria*, the 22nd *mela* of Govinda Dikshitar and Venkatamakhin^{18b}. We must mention here that this moot point about the tune has not been elucidated or cleared up, but only made more vague. *Abogi* is a definite mode or raga whereas *Karaharapria* is a *melakarta* raga and includes many allied ragas, which could be derived from it by a modal shift of tonic. I am not at present interested in *Sāma Veda* sufficiently, to suggest a precise theory with regard to its mode. I have not learnt even a chapter of the *Sāma Veda* as I have done in *Yajur Veda*. I think, however, that the *melakarta* cannot be *Karaharapria* but more allied to the *mela Hanumattōdi* or *Gana Sāma Varāli*.^{18c} I hope to learn *Sāma Veda* vocally and to reproduce the melody in the monochord, an improvised siren and in the *Veena* before clinching the issue of its *mela*.

For the second time after thirty years I practised to chant *Purushasuktam*, learning it through our well-known methods of *Santhai* and *Tiruvai*. The correctness of the acquired knowledge was checked on different occasions and at different places in India. Yet, I have been as much puzzled as these scholars by the extreme difficulty in putting such a simple melody to tune. Accidentally, I found that if the chant is rendered devoid of words as when it is sung in *alaphana* fashion or when it is taken on the whistle, the musical aspect becomes more prominent and the chant relatively easier to decipher. For example, Nicholson and Koch¹⁰ in their book on "Bird Music" have supplied two gramophone records of European bird-music. In one of these on the same side is recorded the music of the wonderful vocalist among birds, viz.,

the nightingale and the monotonous and apparently simple music of the cuckoo. The name of the latter bird is related to its two tone, monotonous music which, however, in our opinion has not been put in European staff notation for the simple reason that it is not a commonly recognised European musical interval. The musical interval in this dischord has been established by us to be an ancient Indian musical interval viz., $7/6$, by synchronising it on the whistle and reproducing it exactly with a improvised siren. This is the interval between *Shadja* (*Mandara*) and *Sadhārana Ghāndāra* or between *Panchama* and *Kaisiki Nishada*. Helmholtz^{8b} in his treatise on "Sensations of tone" had worked up the acoustics of what he called the 16 upper partial tones or overtones of the tensed vibrating string. This ratio $7/6$ works out as the musical interval between the 7th and 6th upper partials or between the 14th and 12th upper partials or overtones, but not however recognised by European musicians. Thus Banister's music,^{3a} a classical work on European music quoting Helmholtz's work points out that musicians have flouted acoustics in a sort of way and consonance deliberately, by taking six out of the eight notes of the octave or group, flatter or sharper for the simpler melodies of their relative scales.

Let us consider Haug's rendering of 'Sam no devir abše ye etc.,' (page 247, exercise 340 in "Music of Hindostan" by A. H. F. Strangeways).

(EXAMPLE FROM) HAUG.

EX. 340.

Sam no .. de vir a - bhi - sha ya ā / - jo etc.

E F E D etc.

160, 170.6 144, etc.,

Notes in European notation
vibration frequencies
Added by author.

(OUR RENDERING)

GENERAL PRAYER Atharva Veda
STYLE OF EXECUTION. GRAVE

CHANT, STYLE. YAJUR VEDA
without waver

MELA Hanumattōdi.

RAGA Punnaga Varāli.

CHANT Tritone melody in
the relative scale of Bb
Bb=126 vibration frequencies.

TALA. Common time: Adi.

EX. 1.

Notes in European notation
Steady Notes, vibration frequencies

It is to be seen that "in the Poona form of rendering taken down by Haug from the lips of Marāta Brahmins" the notes of the tritone are in minims or crotchets, dotted or otherwise; but are without the signs for sharps or flats. Even a cursory inspection tells us that the notes belong to the major diatonic scale commencing from E (*Antara ghān-dhāra*) in the F clef or bass register. Using modern standardized frequency for the tonic, C the fundamental note will have a frequency (pitch value) of 128. E, F, E, D., the notes used in Ex. 340 will then have the following frequencies and musical intervals.

Notes and Musical Intervals.	E	$1\frac{10}{15}$	F	$1\frac{1}{16}$	E	$\frac{9}{10}$	D
Vibration Frequencies.	160		170·6		160		144.

Remembering that *Udātta*¹ (high, elevated, lofty) stands for tonic frequency or *shadja*, the tonic frequency should have a pitch value of 144. *Anudātta*^{1a} has been defined by Pānini (6th century B.C.) the grammarian as a "grave accent which immediately precedes the *Udatta*" etc. So, *Anudātta*, as its name implies must connote a lower frequency. Now if the frequencies indicated by Haug are however, exactly reproduced on instruments like Savart wheels, siren, piano, veena or violin they will be seen to belong to quite a different raga, viz., *Sankarā-barana* and not to the characteristic chant of *Yajur Veda*. However, if Bb, C, Db in Tōdi are taken with the vibration frequency of 144=C the tonic, the mode, of course, becomes different from Haug's representation but the chant is exactly reproduced.

We give (vide Ex. I Supra) our rendering of the first verse in *Atharva Veda*. The Poona version was recited by Marāta Brahmins

nearly 70 years ago. It is interesting to note that the orthodox Brahmins of the last century chose this relatively general prayer which could be chanted by any Hindu instead of a genuine specimen from their Vedic philosophy. Reciting a hymn from the other three Vedas, to an European like Haug or Clements would have been in their view a sacrilege. European scholars must have been puzzled by the simplicity of these orthodox Brahmins of the last century. This prayer also occurs in the Brahmin's daily *Madhyānika karma* and an orthodox Brahmin is supposed to chant daily at noon this prayer asking his (Devas or powerful ancestors) to give the world and himself pure water in plenty. Also vide the prayer to Varuna: *Imam Me Varuna Sruti Havam* etc., given below.

EX. 2.



Here \flat or Bb (*Kaisiki Nishada*), \natural or C (the tonic frequency) and \sharp or Db (*Sudda Rishaba*) will have respectively 126, 144 and 156 vibration frequencies. Also *Udāttam* and *Anudāttam* become standard frequencies or steady notes representing 144 and 126 vibrations respectively. *Prachayam* becomes a sort of *appoggiatura* or an *Arohana* from *Anudāttam* to *Udāttam*. *Svaritham* which follows *Udāttam* becomes firstly an *Arohana* to Db secondly, a fall or cadence generally to *Udāttam* and to *Anudāttam* in certain cases. Thus *Prachayam* and *Svaritham* may be looked upon broadly as grace notes proper or *Gamaka* notes and *Svaritham* particularly does also have a steady vibration frequency of 156 with a frequency ratio of 13/12 from the tonic. Sometimes *Svaritham* in *Rig Veda* has a quaver rest but usually the note is lengthened at Db as a dotted crotchet. This interpretation is also in accordance with our theory of whole number of vibration frequencies^{2b}. It is well known and it can also be shown, that fractional frequencies as 138.6 though understandable, cannot be realised in practice. Our example from *Brahmayagyam* given above has been proved also by experiment with three beakers filled partially with water and tuned to the octaves of the three notes.

I have taken care to steer clear of recent polemical literature by not attempting to enter into the interpretations of the *Yajur Veda*. However, the first 72 verses alone of *Yajur Veda Purushasuktam*, belong to *Rig Veda* and are chanted in temple worship for propitiating the deity. A. H. F. Strangways opines that *Yajur* and *Sama Vedas* are musical developments of the *Rig Veda* and that the accent of the simple *Rig Veda* "was originally a mark of musical pitch and became a mark of stress," with *Rig Vedins* only after the beginning of our era. I entirely concur with this profound view of Strangways since I have had opportunity to hear *Rig Veda* recited in many places and also at Trichūr where most of the Nambūdris are *Rig Vedic Brahmins*. Sri Vāni Vilās Press at Srirangam has recently published "*Rig Veda Purushasuktam*" alone as a small booklet of four pages costing about two annas. That *Yajur* is a musical development of the *Rig Veda* can be shown from purely internal evidence from this booklet. Thus the 5th verse (*Purusha ye vedam sarvam*) becomes in *Yajur Veda* "*Purusha ye vedagum sarvam*," the 10th verse "*Athojiayamschapurūshaha*" is rendered as "*Athojiayam gischa purūshaha*." Also, "*ritham satyam*" is rendered as *Rithagum satyam* etc., to suit the exigencies of rhythm.

I must not forget to mention that rigorous acoustical evidence has been adduced to show that *Hanumattōdi* is a symmetrical raga and that it is a natural scale with consonant musical intervals⁶. Though the partials above the 12th in the string instrument or the human voice, are extremely feeble and almost inaudible, the tones corresponding to these musical intervals are however present in the music of many birds and animals. Frequency ratios such as $8/7$, $13/12$, $14/13$ etc., are thus consonant intervals since they are of the form $\frac{n+1}{n}$ where n can have any integral values^{7a} from 1 to 15. Also $8/7$ interval of 58 savarts is more nearly double the so-called semi tone interval $\frac{1}{2}$ 28 Savarts than $9/8=51.1$ Savarts. It is not a moot point to say that upper partial tones above the 4th or 8th cannot be heard even by the best musically trained ear. However, these over tones with their Helmholtzian musical intervals can be reduced within the octave, that is, reproduced within a musical group, especially with our mobile instruments like the Veena or the European violin. We can style the Indian musical intervals, therefore, as ancient harmonic musical intervals and our music as the ancient *natural harmonic scales*. Karnatic music of Tōdi which is

relatively recent and about 700 years old, has in practice sharpened Eb and Bb notes by the maximum of one beat in *Arohana* and flattened by the same amount in *Avarohana*, to relieve the monotony of an otherwise perfectly consonant musical scale^{20a}.

In another article it will be shown as to how at least 48 *melas* out of Venkatamakhin's 72 *melakartas* could be derived from 2 *melakartas* alone viz., *Hanumattōdi* (a symmetrical raga) and Sankarabarana (an unsymmetrical raga)². P. Sambamoorthi¹⁵ and Ramachandra Dikshitar¹¹ opine from historical evidence of early trade between the south of India and Greece, that about the age of Silappadikaram our Sankarabarana became the later Grecian consonant scale. In our opinion the so-called enharmonic scales^{6a} (Encyclopaedia Britannica) probably connote the oldest Greek music rather than our consonant Indian scales. Then, if *Sankarābarana* may be considered as a musical product of ancient Tamilian civilization, given first to Greece and later developed according to Banister^{3b}, after the 10th century in Europe, we may infer with truth that *Tōdi* is a product of probably an equally, if not more, ancient Samskritic civilization. Also the existence of harmonious and harmonic melodies from about the time of Bharata (5th century) till the time of Sarangadeva (13th century) must point out to only one conclusion viz., that the fusion of these two great cultures must have taken place long before the time of Bharatā the author of *Nāṭya Sāstra*. We need not trouble ourselves much about the age of *Yajur* and *Sama Vedas* so long as there is internal evidence available to show that these *Vedas* may be considerably more ancient than the *Mahābāratha* and the *Ramāyana*. Griffith's translation of *Sama Veda* (1893) gives us an insight into a remarkably and scientifically developed civilization of a period earlier than the literary period of our myths and legends, when the people of the epoch asked of Indra and Agni just the full span of 100 years of life, prosperity to their cattle and rain for their crops. If asked to suggest an age for our *Vedas* I could unhesitatingly put it at a period when there were no castes, when there were no invidious distinctions as whitemen, blackmen, copper coloured men or yellow men but when there were only sages or *Rishis*, people, cattle, birds and primeval forests. If asked to be less vague and more precise, I would put the age of our glorious past at an epoch when the most vital process of deliberately producing fire by friction was practised and demonstrated for the whole world in their *Somayagas* by these ancient *Rishis*.

Personally, though unable to fix the age of our civilization definitely, I would gladly concur with a sympathetic historian who is able to give us a date earlier than the ancient Egyptian or Sumerian civilization.

SUMMARY

Indian musical intervals have been shown to have a scientific basis. *Yajur Veda* chant has been found to be an independent ancient, natural, musical scale and unrelated to the other ancient Tamilian scale, viz., *Sankarabarana* or the major diatonic scale. Both scales seem to be closely connected with bird and animal music with perfect harmonic intervals.

Modern European modes and Indian (northern Indian and Karnatic) ragas take only six or lesser number of notes excluding the tonic and the octave. Modern music may be looked upon as developments of the two distinct natural scales, in the sense that at least two notes of any raga or diapason are taken in Gamaka. Gamaka notes may be defined as either sharpened or flattened tones with a maximum difference of one beat from the consonant intervals. In European music the canons are entirely different; the Gregorian or Plagal system generate the chromatic scale by the fourths and Hauptmann's system by the fifths. Tempering of the scales by European musicians, in these and other ways, had not, however, found favour with acousticians. Horace Lamb^{20b}, for example, says about the so-called tempering of the musical scale as "Tampering" with it.

In conclusion, we must point out that that we owe a deep debt of gratitude, on two counts, to our ancient civilizations; firstly for our glorious and scientific musical heritage; secondly for the fusion of two great cultures, viz., Tamilian and Sanskrit civilizations which must have taken place in India at a very early epoch. That there could not have been any unhealthy repercussions or any clash between these two cultures, is also evident. Sir S. Radhakrishnan addressing women students recently in Bombay (February 1942) pointed out that oriental civilizations knew at all times how to adapt themselves to environments since their democracies were not so much based on mere forms or conventions, fear or jealousy but had deep roots in the two universal principles of "live and let live" and love of humanity.

In Part II we propose to put *Yajur Veda Purushasukta* in European staff notation.

REFERENCES

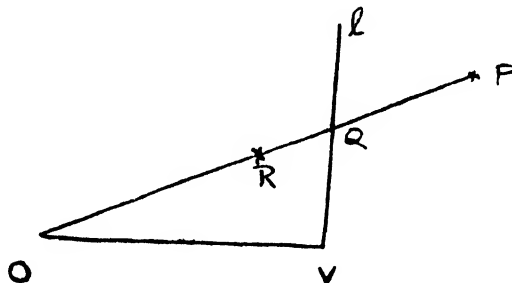
1. Apte, V. S., 'Sanskrit Dictionary' in two volumes (1893), (a) p. 303 Vol. I; (b) p. 71 Vol. I.
2. Author. (a) 'The Indian Musical Intervals' a paper under publication.
(b) Ibid, Chapter 'Venkatamakhin's 13 sruti scale conforms to Helmholtzian overtones'.
3. 'Banister's Music' by Parr. W. A., 23rd edition, 1926, (a) p. 43; (b) chart (chronological survey).
4. Chinnaswamy Mudaliar, A. M., 'Indian Music in European Notation' (1893).
5. Clements, E., I. C. S., 'Introduction to the study of Indian Music' (1913).
6. Encyclopaedia Britannica, Vol. I, (1929 edn.), p. 439, article on AINU.
- J. Batchelor (1901). (a) Article on "Music".
7. Fox Strangways, A. H., 'The music of Hindostan', Clarendon Press, Oxford, (1914).
(a) Chapter X, pp. 246-278; (b) pp. 156 and 346; (c) Chapter X; (d) Ibid; (e) Ibid.; (f) Ibid., p. 247.
8. Helmholtz, 'On the Sensations of Tone', translated by Ellis, A. J. 1912 edition, (a) pp. 269-276; (b) table on p. 22 and p. 23.
9. "Illustrated Weekly of India," the issue dated 23rd November, 1941, "Ainus," p. 60 (author unknown).
10. Nicholson and Koch, Book on Bird Music (1939) supplied with two gramophone records.
11. Ramachandra, Dikshitar, 'Silappadikaram' Appendix III, (1929).
12. Ramachandran, N. S., 'The Ragas of Karnatic Music,' (University of Madras), 1938.
(a) p. 12; (b) Chapter VII; (c) p. 13.
13. Rosenthal, Ethel, 'Indian Music and its Instruments,' (1928), (a) p. 125; (b) Ibid, (c) p. 78.
14. Sabesa Iyer, T. S., Ex-Principal, Music College, Annamalai University—private discussions.
15. Sambamoorthy, P., 'South Indian Music' Book IV (1941), (a) p. 72; (b) Ibid; (c) pp. 59-61; (d) p. 147.
16. Seshagiri Sastri, M., 'First Indian Sanskrit Professor' according to a correspondent, "The Hindu" Sunday 8-3-1942.
17. Subrahmanya Iyer, C., 'The Grammar of South Indian (Karnatic) Music' (1939), vide pp. 30, 34 and 76; Ref. to A. H. F. Strangways, p. 33; also compare columns in *cyclic cents in the following tables*:—
i. C. Subrahmanya Iyer (17), p. 30;
ii. P. Sambamoorthy Iyer (15), pp. 59-61;
with iii. A. H. F. Strangways (7), p. 117, 'Music of Hindostan' (1914).
18. Subrahmanya Sastri, S. 'The Mela-Raga Malika of Mahavaidyanatha Sivan' 1937, (The Adyar Library), (a) Ibid.; (b) p. xxviii; (d) Ibid, p. xxvii.
19. Vipulananda Swami, two articles to "Polil" a Karanthai Tamil Sangam publication, issues dated January and February, 1942, pp. 281 and 306 respectively.
20. Wood, Alexander, 'Sound Waves and their uses' (1930), (a) p. 63; (b) p. 67.

On a Projective Transformation

By

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1. The focal properties of conics are usually studied by means of projections involving the circular points and the circular lines. This paper is mainly an attempt to study those properties by a simpler projective transformation in a single plane. The transformation is then extended to spaces of higher dimensions.



Let O be a given point and l a given line. Take any point P in the plane determined by the point O and the line l . Let OP intersect l in Q and let R be the harmonic conjugate of P with respect to O and Q .

If P moves along a curve C , R will move along a curve Γ which we shall call the 'transform' of C .

As an immediate consequence of the definition of the transformation we have.

Theorem 1. All straight lines through O transform into themselves.

Let V be the foot of the perpendicular from O on l . Then since P, R divide OQ harmonically, it follows that l bisects the angle PVR . Hence we have

Theorem 2. A straight line through V transforms into its reflection about the line l .

As a corollary to the above theorems we get

Theorem 3. The transformation preserves the angles at O in magnitude and sign and the angles at V in magnitude but changes the sign.

It is clear that the transform of any point on the perpendicular bisector of OV is at infinity; conversely, the transform of any point on the line at infinity lies on the perpendicular bisector of OV. Therefore we get

Theorem 4. The perpendicular bisector of OV transforms into the line at infinity; and conversely, the line at infinity transforms into the perpendicular bisector of OV.

2. Next we shall discuss the equations of the transformation. Taking O as origin and OV as the initial line, we have, if (r, θ) , (r', θ') be the points P and R respectively and $OV=2c$, then

$$\frac{1}{r} + \frac{1}{r'} = \frac{2}{OQ} = \frac{\cos \theta}{c} \quad \dots (1)$$

If (x, y) , (x', y') be the cartesian coordinates of P, R respectively, then dividing both sides of (1) by $\cos \theta$ and $\sin \theta$ respectively, we get.

$$\frac{1}{x} + \frac{1}{x'} = \frac{1}{c} \quad \text{and} \quad \frac{1}{y} + \frac{1}{y'} = \frac{x}{cy} = \frac{x'}{cy'};$$

so that

$$\left. \begin{aligned} x &= \frac{cx'}{x' - c}, \quad y = \frac{cy'}{x' - c}; \\ x' &= \frac{cx}{x - c}, \quad y' = \frac{cy}{x - c}. \end{aligned} \right\} \quad (2)$$

Hence we have the

Theorem 5. The transformation is projective, so that the transformation of an algebraic curve of the n^{th} degree is a curve of the same degree. In particular, straight lines transform into straight lines and conics into conics.

Also, from (1) we have

$$\frac{r'}{r} = \frac{x' - c}{c} = \frac{c}{x - c} \quad \dots (3)$$

Let the transforms of the points $P_i (x_i, y_i)$ be $P'_i (x'_i, y'_i)$ ($i=1, 2, 3$) and let the radii vectors OP_i, OP'_i be denoted by r_i, r'_i respectively.

If, further, Δ, Δ' denote the areas of the triangles $P_1P_2P_3, P'_1P'_2P'_3$ respectively, then

$$\begin{aligned} \Delta' &= \frac{1}{2} \begin{vmatrix} x'_1 & y'_1 & 1 \\ x'_2 & y'_2 & 1 \\ x'_3 & y'_3 & 1 \end{vmatrix} \\ &= \frac{1}{2} \begin{vmatrix} \frac{cx_1}{x_1 - c} & \frac{cy_1}{x_1 - c} & 1 \\ \frac{cx_2}{x_2 - c} & \frac{cy_2}{x_2 - c} & 1 \\ \frac{cx_3}{x_3 - c} & \frac{cy_3}{x_3 - c} & 1 \end{vmatrix} = \frac{1}{2 \prod_{i=1}^3 (x_i - c)} \begin{vmatrix} cx_1 & cy_1 & x_1 - c \\ cx_2 & cy_2 & x_2 - c \\ cx_3 & cy_3 & x_3 - c \end{vmatrix} \\ &= \frac{-c^3 \Delta}{\prod_{i=1}^3 (x_i - c)} = - \frac{r'_1 r'_2 r'_3}{r_1 r_2 r_3} \Delta \text{ [by (3)]}. \end{aligned}$$

Thus we get

Theorem 6. If P_1, P_2, P_3 be three points with transforms P'_1, P'_2, P'_3 respectively, and Δ, Δ' be the areas of the triangles $P_1P_2P_3$ and $P'_1P'_2P'_3$ respectively, then

$$\frac{\Delta'}{OP'_1 \cdot OP'_2 \cdot OP'_3} + \frac{\Delta}{OP_1 \cdot OP_2 \cdot OP_3} = 0.$$

Consider a circle with centre O and radius a . Putting $r=a$ in (1), we see that its transform is the conic

$$\frac{a}{r'} = \frac{a}{c} \cos \theta - 1,$$

having O as a focus, the initial line as the transverse axis and whose semi latus rectum is a and the distance of the directrix from the focus is c . Hence we get the

Theorem 7. Circles with centre at O transform into conics with a focus at O and the corresponding directrix common, the semi latera recta being equal to the radii of the corresponding circles. Conversely, a system of conics having a focus and the corresponding directrix common, can be transformed into concentric circles by a proper choice of O and the line l .

3. A number of interesting deductions can immediately be made. We give a few as illustrations.

Since the chords of a circle subtending a constant angle at the centre envelop a concentric circle, the point of contact of a chord with the envelope being on the bisector of the angle subtended by the chord at the centre, we get on transformation (using Theorem 3) the

Theorem 8. Chords of a conic subtending a constant angle at a focus envelop a conic having that focus and the corresponding directrix common with the given conic. Further, the point of contact of a chord

with the envelope lies on the bisector of the angle subtended by the chord at the focus.

If a polygon be inscribed in a circle and circumscribed to a concentric circle, then the sides of the polygon subtend a constant angle at the common centre. Correspondingly we have the

Theorem 9. If a polygon be inscribed in a conic and circumscribed to another having one focus and the corresponding directrix Common with the former then the sides of the polygon subtend a constant angle at the common focus.

Moreover, the necessary and sufficient condition that a polygon of n sides be circumscribed to a circle of radius a and inscribed in a concentric circle of radius b is

$$a = b \cos \frac{\pi}{n}$$

Therefore we have

Theorem 10. The necessary and sufficient condition that a polygon of n sides may be circumscribed to a conic of semi-latus rectum a and inscribed in another conic having one focus and the corresponding directrix common with the former and whose semi-latus rectum is b is

$$a = b \cos \frac{\pi}{n}.$$

If in theorem 6 we take P_1, P_2, P_3 on a circle with centre O and radius a , the area of the triangle $P_1P_2P_3$ will remain constant if the sides subtend constant angles at the centre. Hence we immediately deduce

Theorem 11. If P_1, P_2, P_3 be three points on a conic such that the sides of the triangle $P_1P_2P_3$ subtend constant angles at a focus, O , and if Δ denotes the area of the triangle $P_1P_2P_3$, then

$$\frac{\Delta}{OP_1 \cdot OP_2 \cdot OP_3} \text{ is constant.}$$

Since the maximum triangle inscribed in the circle is equilateral, it follows that the maximum value of $\frac{\Delta}{OP_1 \cdot OP_2 \cdot OP_3}$ is attained when the sides

of the triangle subtend the same angle at O, and is then equal to $\frac{3\sqrt{3}}{4a}$ where a is the semilatus rectum.

A circle with centre at the midpoint of OV has its equation in the form

$$(x - c)^2 + y^2 = a^2.$$

This by (2) transforms into

$$\left(\frac{cx'}{x' - c} - c \right)^2 + \left(\frac{cy'}{x' - c} \right)^2 = a^2$$

i.e., into the hyperbola

$$\frac{(x' - c)^2}{c^4/a^2} - \frac{y'^2}{c^2} = 1, \quad \dots (4)$$

which has the midpoint of OV as its centre, the semilatus rectum and the conjugate axis equal to a and c respectively, and the x -axis for the transverse axis. Thus we get

Theorem 12. Circles having a common centre can be transformed into concentric hyperbolas whose conjugate axes coincide and are equal in length, and whose latera recta are equal to the radii of the corresponding circles. [We have only to choose O, V such that the common centre is the midpoint of OV.]

The converse is also true.

Since O, V are fixed points for all hyperbolas of the system (4) being the points where the circle, concentric with the hyperbolas and

having its radius equal to the common semi-conjugate axis, meet the transverse axis, it is clear that we can obtain from theorem 12, theorems analogous to theorems 8, 9 and 10. The actual statement of the theorems is left to the reader.

It may be remarked here that circles having centre at V transform into conics having a focus at V and the corresponding directrix common, the semi latera recta being equal to the radii of the corresponding circles.

4. The method of transformation given above can easily be extended to spaces of higher dimensions. For the transformation in n dimensions we have simply to replace the line l by an $(n-1)$ -flat. If $2c$ be the distance of the $(n-1)$ -flat from the origin O it follows, exactly as in the case of two dimensions, that the relation connecting OP and OP' is

$$\frac{1}{r} + \frac{1}{r'} = \frac{\cos \theta}{c}. \quad \dots (5)$$

If we take OV as the x_1 -axis we get the following transformation scheme in cartesian coordinates.

$$x_i = \frac{cx'_i}{x_1' - c}$$

$$x'_i = \frac{cx_i}{x_1 - c} \quad (i = 1, 2, \dots, n) \quad \dots (6)$$

The content Δ of an $(n+1)$ -simplex formed by the points $P_r (x_{r1}, x_{r2}, \dots, x_{rn})$ ($r = 1, 2, \dots, n+1$) being

$$\frac{1}{n!} \times \begin{vmatrix} x_{11} & x_{12} & \dots & x_{1n} & 1 \\ x_{21} & x_{22} & \dots & x_{2n} & 1 \\ \dots & \dots & \dots & \dots & \dots \\ x_{n+1,1} & x_{n+1,2} & \dots & x_{n+1,n} & 1 \end{vmatrix}$$

we have, if Δ' denotes the content of the transformed simplex, analogous to theorem 6, the

Theorem 13

$$\frac{\Delta}{OP_1 \cdot OP_2 \cdot \dots \cdot OP_{n+1}} + \frac{\Delta'}{OP'_1 \cdot OP'_2 \cdot \dots \cdot OP'_{n+1}} = 0.$$

We can also write down without difficulty the analogues of the other theorems.

The Indian States and the Paramount Power

By

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The problem of the Indian States is as old as Indian history. We find 'Samantas' or local rulers in the Old Hindu Empires occupying a position more or less analogous to that of the princes of modern India. These local rulers became practically independent sovereigns with the decline of the Mughal empire, and their allegiance to the Delhi throne was only very nominal. When the English established their first trading settlements in India, they found these rulers *de-facto* sovereigns in their own states. But the different circumstances that led to the establishment of British power strongly influenced the fortunes of these princes also: the problem of Indian states as we find it to-day is essentially the result of these circumstances.

The East India Company was purely a trading corporation during the first century and a half of its existence. The charter of the crown had no doubt authorised the company to wage war with non-Christian powers and to enter into treaties or alliances with them. But the company at that time was struggling for its bare existence and its directors had instructed its agents to concern themselves as little as they could with the politics of India. Their policy was clearly outlined in the preamble of the Pitt's India Bill of 1784 which declared that "to pursue schemes of conquest and dominion in India are repugnant to the wish, the honour and the policy of this nation." During this period the company had little confidence of its own strength, and it was anxious to avoid both annexations and alliances. But the battles of Plassey and Buxar convinced the British of the weakness of the Indian princes. In 1764 Oudh lay at the feet of Major Munro, and the company found itself committed to the task of controlling the administration of an important Indian state. But the company's position at that time was not strong enough to permit the annexation of Oudh. Therefore an alliance was concluded with the Navab Wazir guaranteeing his absolute independence in internal administration.

The reign of Wellesley marked a striking departure from the policy of his predecessors. His "subsidiary alliance" was a bold assertion of the company's superior rights over the Indian states. A treaty of subsidiary alliance required the prince to surrender his "right of negotiating with foreign nations and with states in alliance with the company". This was the first serious encroachment on the independence of the Indian princes in general. But Wellesley's policy was soon reversed by his immediate successors. 'Non-intervention' was the key-note of British policy till 1813. One striking characteristic of this policy was the general recognition of the equality of status between the states and the company. The company recognised the sovereign position of the states in all their treaties and alliances. They were treaties of 'mutual amity, friendly co-operation and reciprocal obligations.'

The company's position and status had entirely changed under the governor-generalship of the Marquis of Hastings. The East India Company was no more one of the powers of India, it was the paramount power. It had scattered the power of its European rivals and it no longer required the support of the Indian states for its existence. On the other hand the Indian states stood in need of the company's support. The British policy towards the states during this period is described as one of 'subordinate isolation'. The Marquis of Hastings was an avowed champion of British sovereignty and it was clearly asserted in all his treaties with Indian states. In the former period treaties were negotiated with Indian princes for mutual security, and the treaty obligations were reciprocal. But Hastings' treaties declared the states to be in complete subordination to the Government of India. This principle is clearly seen in his treaty with the Maharana of Udaypur (1818). Article 3 lays down that "the Maharana of Udaypur will always act in subordinate co-operation with the British Government, and acknowledges its supremacy, and will not have any connection with other chiefs or states." Hastings however was prepared to recognise the independence of these princes in internal administration. He was anxious to preserve the apparent sovereign status of the Indian princes and was definitely against any policy of annexation.

But the governor generalship of Dalhousie marked a distinct step further. Dalhousie asserted that the relationship between the princes and the company was of a 'feudal' nature and therefore he could claim

'suzerain' rights over them. This was his justification in enunciating his famous 'doctrine of lapse and escheat.'

The great Mutiny and the assumption of direct sovereignty by the crown opened a new chapter in the history of British relations with Indian states. The failure of the mutiny was the recognition of the de-facto and de-jure sovereignty of the British in India. Lord Canning declared that "the crown of England stood forward the unquestioned ruler and paramount power in all India" and that "there was a reality in the suzerainty of England which was acknowledged by the Indian chiefs." The introduction of a new factor, viz., the crown, in the politics of India radically altered the constitutional position of the Indian States. In the Queen's Proclamation there was an attempt to define British policy towards the princes. The princes were assured that there would be no further encroachment on their territories. The Queen also promised that she would "respect the rights, dignity and honour of native princes as her own." The princes were no doubt greatly relieved to secure a formal guarantee of their rights from Her Imperial Majesty. But assumption of direct sovereignty by the crown brought about a subtle change in the nature of these 'rights' of the Indian princes. From that time onwards their 'rights' were to be dependent upon the goodwill of the British crown. The Government of India Act of 1858 established beyond doubt the feudatory character of the states and completed the imperial structure with the crown as its apex. The Queen's Proclamation was followed by Lord Canning's issue of 'sanads' to the Indian princes. These sanads demanded loyalty to the crown as one of the essential conditions for its fulfilment. Canning asserted also that these sanads did not "debar the Government of India from stepping in to set right such serious abuses in a native government as may threaten any part of the country with anarchy or disturbance, nor from assuming temporary charge of a native state when there shall be sufficient reason to do so." These rights of paramountcy and feudal overlordship were formally acknowledged by the Princes of India when they attended the Imperial Durbar at Delhi.

Having broadly traced the policy of the paramount power towards the states in different stages, let us examine the rights claimed by the Government on the basis of this paramountcy. The Viceroys, Governors and other agents of British Power in India have from time to time

enunciated in theory and asserted in practice their various rights over the Indian states, which they call 'suzerain rights'. But these suzerain rights' have never been wholly accepted by the princes. Neither do they affect all the princes equally. They have been widely influenced by the treaty rights, customs and traditions of different native states. The following are the important rights claimed by the paramount power.

(1) The paramount power directs the relations of the states with foreign powers. This right has been claimed by the British Government even in its very early treaties with Indian princes. In course of time specific restrictions were imposed on the princes in their dealings with foreign powers. Princes are not entitled to receive consular agents in their territories. They cannot employ foreigners in their service without the sanction of the British Government. All foreign interests of the states like trade negotiations, extradition of a criminal etc., are secured through the paramount power. Even pass-ports for state subjects for travel abroad are issued by the British Government. The princes cannot accept any honour or title from any foreign power without the consent of the paramount power. The obligations of the Imperial Government to foreign powers both in times of war and peace are binding on the states also.

(2) The British Government protects the rights of British and foreign nationals in native states and establishes extra-territorial jurisdiction. Many of the local rulers have recognised the claim of European nationals to be tried by European judges. The Residency in a native states has been declared inviolable. Cantonments and military stations, and in many states railway territories also, are under the jurisdiction of the British Government.

(3) The paramount power conducts the relations between one state and another. The states have surrendered their external authority and as such have no international status. All inter-statal disputes are to be settled by the award of the paramount power. "If a boundary question is to be adjusted, an amicable arrangement made for the mutual surrender of criminal or joint action taken to complete a line of railway or canal that passes from state to state, the British Government must arrange the business and its arrangement must be binding upon the parties concerned" (Imperial Gazetteer Vol. IV). There are

numerous instances where the central government has exercised its right of settling inter statal disputes. (Eg. disputes between Travancore and Cochin over the Koodalmanikkiyam Devasthanam. Territorial disputes between Patiala and Nabha).

(4) The paramount power settles all questions relating to succession in the native states. This right was originally claimed only in the case of dependent states. But now all the states have recognised it as a right associated with suzerainty. The Secretary of state for India declared in his despatch of July 1891 that "it is admittedly the right and duty of the Government to settle successions in the protected states of India generally." The Government of India declared in plain terms that "every succession must be recognised by the British Government and no succession is valid until such consent has been given."

As a necessary corollary to this right of settling succession, the British Government reserves the right of permitting or disallowing adoption. No doubt, the princes' right of adoption has been recognised in the Queen's Proclamation ("I hereby convey to you the assurance that on failure of natural heirs, the adoption by yourself and the future ruler of your state of a successor according to Hindu Law and the custom of your race will be recognised and confirmed"). But in all cases adoption becomes valid only when it is sanctioned by the paramount power. It may be pointed out here, that a prince cannot adopt an heir superseding the claims of the legal heir. The right of adoption has been recognised only "on failure of natural heir". (Ref. Kashmir case of adoption).

(5) The paramount power exercises the right of setting up regencies and minority administrations. The Government of India maintain that "they are the trustees and custodians of the rights interests and traditions of the states during a minority administration." But this trusteeship has been exercised not only in cases of minority administration. Instances are not rare where rulers have been deposed for charges of maladministration and regency governments set up in their places.

The suzerain power has also claimed the right of wardship over minor princes. The British Government has made provisions for the education of the Indian princes and separate institutions have been set up for this purpose.

(6) The Paramount power controls the use and grant of all titles, honours and salutes relating to the Indian princes. Titles claimed by a prince in addition to those mentioned in his 'Karita' are not recognised by the suzerain government. The right to confer titles on ruling princes is the privilege of the king Emperor, and princes are not allowed to receive titles or honours from foreign powers without his consent. The princes are not generally allowed to confer on anybody any of the titles which are usually given by the Viceroy. In a controversy of this kind the Political Agent informed the Begum of Bhopal (letter dated Aug. 19, 1919) that "the grant of the title of Rai Bahadur was wholly inadmissible under general rule" and that "titles similar to those given by the Viceroy should not be given by ruling chiefs even to their own subjects."

(7) The suzerain power undertakes to protect the states from external aggression and from internal disorder. This right of protection places the states in such a degree of dependence that they are rendered absolutely powerless against the central government. Serious restrictions have been imposed on the number, armament and equipment of the state forces. The native rulers are not allowed to "construct factories for the production of guns and ammunition" or "to fortify posts in the interior." Princes are expected to surrender all their resources to the central government in times of war or other emergencies.

(8) The paramount power exercises its jurisdiction over railways, posts and telegraphs, coinage and currency and customs and fiscal policy in the Indian states. Many of the princes have surrendered all rights over the railway lines passing through their territories. The states cannot construct railways without the permission of the British Government, unless they are for purely local purposes. The telegraph offices in native states are exclusively controlled and managed by the officers of the British Government (Kashmir has a separate telegraph system of its own). The right of independent coinage has been denied to many native states. The policy of the British Government has always been to universalise the British coinage. Some states like Hyderabad and Travancore have their own coins. But the British rupee is legal tender every where.

Indian states which have seacoasts have practically surrendered their rights of sea customs to the paramount power (Travancore has entered into an interportal convention with the British Government).

(9) The suzerain government can depose an Indian prince or compel him to abdicate in exercising its right of punishment. Princes may be deposed either for charges of gross misrule or for disloyalty. We find leading instances of deposition in prominent states like Mysore, Baroda, Alwar and Indore. But the paramount power has found it convenient to induce the native ruler to abdicate 'voluntarily' in many cases. The government has often resorted to this policy of veiled deposition 'to avoid the odium of public punishment.'

(10) The most important of all the rights claimed by the paramount power is the right to interfere in the internal affairs of a state. This has always been resented by Indian princes; but as Sir George Campbell observed as early as 1852 "there is in fact almost no state with the internal affairs of which the British have not had something to do." Sir W. L. Warner mentions two kinds of cases in which the suzerain power may interfere. "The Government of India may interfere in the interests of a state protected by it or a sovereign recognised by it, or it may interfere mainly in the interests of British subjects and of the Empire as a whole". But this is too vague and elastic a statement and any case may fall under either of these categories. This almost tantamounts to an indefinite right of intervention. In fact this seems to be the claim of the suzerain government. Lord Reading in his letter to the Nizam dated 27th March 1926 declared that "the right of the British Government to intervene in the internal affairs of the Indian states is another instance of the consequences necessarily involved in the supremacy of the British crown." It is not possible to estimate the actual extent of the exercise of this right in different states. But the paramount power has observed very little distinction between smaller and bigger states in the exercise of this right. They have interfered in the affairs of "His Exalted Highness and our faithful ally the Nizam" as often as they have done in the case of a minor prince of Kathiawar.

The chief agency through which the British Government interferes in the affairs of the state, is the British Resident. The main duty of the Resident, no doubt, is to give 'advice' to the prince. But as Mr. K. M. Panikkar says the advice of the resident is usually an order or a command. "The whisper of the Residency is the thunder of the state and there is no matter on which the Resident does not feel qualified to give advice." In many native states the Residents are the 'masters' of the

princes rather than their 'advisers'. They interfere in the day-to-day affairs of the state and often exert their influence in the appointment of the state officers. There was a time, when even in such a major state as Travancore no appointment carrying a salary of Rs. 500 or above could be made without the sanction of the Resident. Princes have many a time complained about the high-handedness of the Political Agents in their states, but often with no results. On the other hand, the complaints of the Residents against the princes have often induced the suzerain power to exercise their right of punishment. The Raja of Satara was deposed and his state was annexed on the basis of the charges brought against him by the Resident. Another method by which the paramount power controls the administration of the states is by appointing its own nominees as dewans or ministers. Princes are not allowed to appoint their ministers without the sanction of the British Government. They are to be guided by the advice of the British Government in the choice of their dewans. Sometimes they are forced to forego their own preference in the matter, and to appoint the nominee of the paramount power.

The services of British officers may be 'lent' to the states for a stipulated period. These 'lent' officers also provide a convenient means for the British Government to interfere in internal affairs.

The British Government can interfere in the administration of the state to some extent by virtue of its right of controlling legislation. In many native states legislation even on ordinary matters of importance requires the previous sanction of the British Government. The paramount power can further interfere in state affairs at the instance of direct petitions from the state subjects. This right is based on the claim that the state subjects owe direct allegiance to the suzerain power. The people in the states have only been too glad to avail themselves of this privilege of seeking redress of their grievances at the hands of the paramount power. In the recent political agitations for responsible governments in many of the states, we find instances of popular organisations submitting petitions and memorials to the Viceroy demanding direct intervention.

We have enumerated above the various rights claimed by the paramount power over the states; now it is not difficult to see that the 'sovereignty' of the Indian states is but an empty phrase. Some writers

hold that the states have not surrendered their "internal sovereignty" even though they have no sovereign status in international law. This argument of 'partial sovereignty' of the state may be accepted as a theory. We may agree with Mr. Panikkar when he says that sovereignty is divisible and that the undivided sovereign of the Austinian school is a meaningless metaphysical conception. But so far as the Indian princes are concerned it is doubtful whether they retain even this partial degree of sovereignty. No doubt there are all the outward symbols of sovereignty in the Indian states. The Chamber of Princes is said to be composed of ruling princes of India exercising "full sovereign powers." But in actual practice, sovereign power is being exercised by the paramount power. Lord Curzon was not enunciating any new theory when he declared in his famous Bhawalpur speech that "the sovereignty of the crown is everywhere unchallenged. It has itself laid down the limitations of its own prerogative."

Lord Reading's letter to the Nizam emphasised the principle again:—

"The sovereignty of the British Crown is supreme in India and therefore no ruler of an Indian state can justifiably claim to negotiate with the British Government on an equal footing." In spite of these clear enunciations repeatedly made by the viceroys, the princes have again and again demanded a clearer definition of Paramountcy. The Indian states committee has given the answer in very plain terms "Paramountcy must remain paramount."

Bharati and Tamil Music

By

C. R. MYLERU, M.A.,

It is likely that some people might be surprised to see this title, and might begin to wonder whether it is our late poet Sir C. Subrahmania Bharati who has spoken about "Tamil music", and if so where. Yes, it is he who has expressed his views on this subject so long back as 1920, or earlier, long before any one ever even dreamt of the Tamil music movement. We who follow in his footsteps in other matters, could follow him even in this respect; his words are so eminently reasonable and appealing. He says:—

Only those who are able to sing some of the compositions of Muthuswami Dikshatar, Thyagayyar, and Patnam Subramania Ayyar, with many "Sangathies" are first-rate musicians. All these songs are either in Sanskrit or Telugu. Therefore the vast majority of the singers do not know the meaning of the songs they sing. They swallow the letters and words of the songs, and thus murder the meaning of the compositions. When a musician does not know the meaning of a song, he cannot know its "rasā".

I have also been carefully observing the state of affairs in music from my birth up to this moment. The performance begins; the singer begins with "Vāthāpi Ganapathim Bhajē"; then "Rama nē samāna-mevaru", Mariyātha kāthurā", "Varamulasaki" Oh God! the same story from beginning to end!

Go wherever you want, to any district, any village, let any "vidwan" sing, it is the same thing over and over again. It is only because the people of Tamil Nad have iron ears that they have been hearing again and again and again and again, the same seven or eight songs for years together. People who have good ears in any country would not have put up with this infliction.

I don't mean to say that we should forget songs written by our great predecessors. They must be sung with a knowledge of their meaning. The words should be pronounced well; they should also be enounced well, and not swallowed. Music should not be made an endurance-test, by singing the same twenty or thirty songs over and over again.

New songs must be written and published. The foremost among the musicians at the present-day should try to compose new songs in Tamil. They should learn all about the nine "rasās", and also how they can produce what "rasā" they want by singing a particular "rāgā" in a particular way etc.

"Do not say that there are no good patrons of music in the land. Do not keep telling me that you should try to learn a few songs within a short period, and earn a precarious livelihood by singing them, and that otherwise you will starve."

You should trust the common people. Henceforth you will get support and patronage for fine arts only from the common people. It is your duty to teach them the correct way of appreciating good music. Then you will get good encouragement. If only the people were so minded, they could easily collect four annas per head, and give you Rs. 1,000 per month. You should consider the people as your patrons, as your masters. If only you give proper training to the common people at the beginning to appreciate good things, they would patronise and encourage all arts and learning.

Musicians usually sing only the compositions of Muthuswamy Dikshatar, or Thyagayyar or Patnam Subrahmanya Aiyar in performances. Among these, Dikshatar's songs are in unalloyed Sanskrit. They have a flow and a movement comparable to the majesty and beauty of the river Ganges. They have also got some other good points. But, since they are written in Sanskrit, they are unsuitable for our common people to sing them with a full understanding of their meaning and "rasā".

Thyagayyar was a divine person; he was an ocean of "rasā". He is the main cause for the present position and condition of Carnatic music. Like the sages of old, he made an offering of his "ātma" to his favourite deity, was entirely free from all thoughts of self, and shone as the very

embodiment and personification of his art. Though the singers of the present day spoil his songs by introducing too many "sangathies", by neglecting their "rasābhāvā", and by swallowing sounds and words or by mispronouncing them, yet the old beauty of the compositions still shines.

We do not find this beauty in the music of composers like Patnam Subrahmanya Ayyar and others. For example if we take a song like "Varamulasaki", we find that there is no relationship between the music and the meaning of the song.

The words mean "Is it difficult for you to give me a boon?"; but the music does not coalesce with the words. Then.....

It is necessary for the musicians to learn old songs and master traditional ways of singing. But they must give up the habit of always singing songs in languages other than Tamil in Tamil Nad. It is a vicious practice. If we should go on at this rate, ultimately we might even lose our taste for music."¹

With what wonderful foresight has Bharati said everything pertinent to this problem! All true poets are "seers"; in the Greek language a poet is called "vates", which means "one who can foresee and prophesy". It is difficult to find arguments more appropriate or telling than those given by Bharati in favour of Tamil music.

But let us make an attempt and examine some other reasons also for Tamil music. At the present day there is a Renaissance in Tamil; new literature in the shape of novels, short stories, poems, essays etc., books on science, economics, philosophy and history are coming out every day. The people of Tamil Nad enthusiastically welcome these attempts and encourage authors to produce more and more. No one has said that all this is detrimental to Tamil culture or advancement! Again there was an agitation for vernacularising all studies in high schools excepting the language subjects; this has been carried out into practice in many schools in the presidency. When this spirit for "Tamilization" is encouraged in

1. Translated from Bharatis remarks in his essay "சங்கீத விஷயம் in கலைகள்".

all other spheres, why should there be opposition in the field of music alone? In this direction also the Renascent spirit of the Tamils is being exhibited; people are just now waking up from their long sleep of centuries, and demanding their rights. It is curious that there should be people to oppose it, instead of supporing it.

The support given to this movement by Rājāji is very important. Ordinarily he does not openly give his support to anything. But, if he is fully convinced of the correctness of a certain point of view, he would not mind proclaiming it, even if he should happen to oppose his own "guru" Mahātmāji, while so doing. (The recent discussions of the Congress Working Committee at Bardoli, where Rājāji opposed and carried his point, bear ample testimony to this). Therefore, his declaring that Tamil Music is desirable, just, and worthy of patronage and encouragement is a great thing.

Again, this movement provides a good opportunity for musicians to learn many new Tamil songs, which they can sing to ardent listeners and earn a good name and a lot of money. They would also understand that they should gather a large stock of songs, and sing such songs as their audiences want, and not such ones, as they (the musicians) want ignoring the audience'.

Some people think that this movement means, that from beginning to end only "Kavadichinthu", "Thiruppugazh", and "Thēvāram" should be sung in a performance! They also wonder how a concert would be attractive with such fare. Nothing of this sort need be done, nor even thought of.

The concert should proceed in the same order and manner as at present with a "Varnam" at the start, then some slow timed pieces followed by some in quick time, "pallavi" minor songs etc. But, the one important proviso is, the language of the songs, especially of the ones before the "pallavi" should be Tamil. Some people might say that there are not enough good songs in Tamil to be sung before the "pallavi". This is not true; there are a number of fine songs available; many more have been found out, and written in the proper musical notation by a special committee of "Vidwans"; they will also be published shortly. Arrangements have been made to teach some of these songs at important

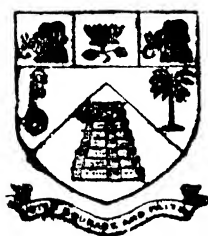
centres in Tamil Nad. What else need be done ? Our land should be deeply indebted to Raja Sir Annamalai Chettiar who has come forward to do this noble piece of work. His work can be compared to that of our old Tamil Kings who encouraged the three forms of learning: literature, music and drama. (இலல், இலை, நாடகம்). If he should take up the cause of drama also which too is in a backward state in Tamil Nad, his work would be complete and comprehensive.

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GENERAL EDITOR

Professor B. V. NARAYANASWAMY NAIDU

THE PROBLEM OF RURAL CREDIT IN THE MADRAS PRESIDENCY



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It is advisable for central banks to open branches if facilities could be afforded to societies for disbursement of loans as well as collection of dues from them. Ordinarily these functions could be left to good urban banks. These branches should act only as transmitting agencies to central banks. It should however be noted that opening of branches is only a matter of convenience and not of principle. The number of branches of central banks at present is only 12, the largest being five branches in Cuddalore. These branches are in charge of paid employees of the bank called "managers". The business done by these branches is not stimulating. In the survey of the credit institutions in South Arcot District, the writer had an opportunity of visiting an out-agency of central bank at Vadalur. The manager had practically no work and the out-agency was not working satisfactorily. Another out-agency was opened at Chidambaram. It worked only for four months and as it was not able to do sufficient business to maintain an office at Chidambaram, it was closed very soon. Hence branches of central banks in the various taluks should be established only if there is a chance of such branches doing good business.

Capital: The central banks derive their capital from the share capital, deposits, and other borrowings. Share capital is raised by the issue of shares to individuals and societies. Society shareholders are generally required to take one share for every Rs. 1,000 they wish to borrow from the central banks and unlimited liability societies are required to take as many as their own share capital will permit.

Central banks derive the bulk of their working capital from deposits from individual members and non-members, from local boards, municipalities and similar sources with the sanction of the Government and the reserve fund deposits of primary societies. The various kinds of deposits from individual members and non-members are fixed deposits, current deposits, recurring deposits and savings deposits. Fixed deposits are received for not less than 6 months and not more than three years. They form a very important part of the resources of the central banks and the period of such deposits limits the period of loans to societies. The rates of interest allowed on these deposits are low. For fixed deposits the rate varies from $1\frac{1}{2}\%$ to $4\frac{1}{2}\%$, savings deposits 2% to 3% , current deposits 1% to 2% , recurring deposits 3% to $6\frac{1}{4}\%$.

The local boards and municipalities have been permitted by the Government to invest their funds in the Madras Provincial Co-operative

Bank and Central Banks. Besides local and municipal funds Government authorised several kinds of security deposits to be invested in the Provincial and Central Co-operative banks (e.g., toll gate contractors and local fund engineering contractors). To prevent competition among banks for the attractive local board deposits and to prevent accumulation of idle surplus, the Registrar placed certain restrictions on the acceptance of these deposits. Chief among them are that the total amount of deposits lodged by local bodies with co-operative central banks should not exceed their paid up share capital; the Registrar has however power either to raise the limit to any amount not exceeding twice the paid up share capital or to relax in the case of individual deposits on certain conditions. Out of a total working capital of all central banks amounting to Rs. 523·54 lakhs, the total fixed deposits of local bodies held by all central banks on 30th June, 1938, amounted to Rs. 34·36 lakhs and the paid-up share capital Rs. 49·79 lakhs. *Thus central banks can take fixed deposits of local bodies up to the paid-up share capital amount. Some of the central banks however had surplus funds on 30th September, 1938 from 1 to 4 lakhs.

Central banks also borrow money either by taking a loan from the Madras Provincial Co-operative Bank or by means of an overdraft from it or from the Imperial Bank of India. The loan applications of Central Banks for loans from Provincial Bank are sent through the Registrar of Co-operative Societies. Cash credits are also granted to central banks by the Provincial Bank to run for one year at a time but terminable at a month's notice. The central banks lodge with the Provincial Bank pronotes of unlimited liability of societies as collateral security. The Imperial Bank grants overdrafts against Government and other authorised securities. The undrawn portion of cash credit is counted for the purpose of fluid resource.

The borrowing power of a central bank is fixed with reference to its paid-up share capital and reserve fund and is limited to ten times the sum of these two items. The Madras Provincial Co-operative Bank is permitted to borrow up to twelve times the sum of its paid-up share capital and its reserve fund.

The maintenance of fluid resources:—

Banks and societies receiving deposits must keep a certain proportion of their assets in liquid form to meet the claims made from time to time by depositors. According to present rules central banks have to maintain fluid resources in the following proportions* :—

- (i) Full amount of fixed deposits matured and not claimed.
- (ii) Full amount of recurring and provident fund deposits which matured for payment.
- (iii) Fifty per cent of fixed deposits falling due within the next thirty days.
- (iv) Fifty per cent of current deposits.
- (v) Twenty-five per cent of savings deposits.
- (vi) Fifty per cent of the amount of cash credits allowed to other societies as cover for deposits in them. In the case of the Madras Provincial Bank the proportions are the same as those of central banks except for current deposits for which the Bank has to maintain 40% fluid resource.

The forms of fluid resource to be maintained are:—

- (i) Cash balance on hand and with banks.
- (ii) Amount deposited in the post office savings bank which is readily withdrawable without notice.
- (iii) The entire purchase value of post office cash certificates held by the bank.
- (iv) Undrawn cash credit with the Imperial Bank of India.
- (v) Government promissory notes—80% of the market value (as quoted in daily papers and unencumbered).
- (vi) Debentures of the Madras Co-operative Land Mortgage Bank purchased by the bank out of its general funds. The bank

*The Madras Co-operative Manual—Vol. I. Revised Edn. 1937,

is permitted to reckon these debentures for the purpose of fluid resource up to a limit of one third of the standard required to be maintained by it, the debentures being taken at 80% of their market value.

- (vii) The undrawn portion of cash credit allowed by the Madras Provincial Co-operative Bank.

In the matter of fluid resources a distinction is made between liabilities to the outside public and those due to co-operative societies. Items i to v of the paragraph referring to the standard of fluid resources should maintain forms of fluid resources described in items i to vi. The undrawn portion of cash credit given to central banks by the Madras Provincial Co-operative Bank on securities other than co-operative paper (on the security of Government paper, fixed deposits and the debentures of the Central Land Mortgage Bank) has been permitted to be reckoned as fluid resource for the purpose of meeting outside liabilities as in the case of inside liabilities. The overdraft granted to central banks by the Provincial Bank on the security of co-operative paper can be counted against fluid resource for their inside liabilities only.

The Townsend Committee recommended that the standard of fluid resources in central banks should be 30% of fixed deposits falling due within the next six months or 50% of those falling due within the next thirty days, whichever is from time to time higher. Regarding the maintenance of the fluid resources, the Committee recommended that if Central banks agreed, it would be safe for them to concentrate their cash credit with the Provincial Bank and that the undrawn cash credit of the central banks with the Provincial Bank should be included in their fluid resources. The President and two other members did not approve of the practice of relying largely on cash credit as fluid resources and also of the proposal to concentrate the fluid resources in the Provincial Bank. They felt very strongly that the holding of appreciable tangible liquid assets by the central banks was very necessary.

The position as on 30th June 1938 was that all central banks had to maintain fluid resources to the extent of Rs. 36·14 lakhs as cover for deposits from individuals and institutions other than co-operative societies.

Against this they had resources amounting to Rs. 72·25 lakhs which were composed of as follows:—

	LAKHS Rs.
(a) Cash on hand, post office savings bank deposits and cash certificates ..	20·10
(b) Undrawn cash credit with the Imperial Bank ..	25·18
(c) Undrawn cash credit with the Madras Provincial Bank obtained on the security of Government paper, fixed deposits and the debenture of Central Land Mortgage Bank ..	11·08
(d) 80% of the Market value of Government paper ..	10·10
(e) 80% of the market value of the debenture of the Madras Central Land Mortgage Bank purchased out of general funds up to a limit of 1/3rd of the fluid resources required to be maintained ..	5·79

This strong position is due to the plethora of funds with the central banks. The central banks had also to maintain 5·53 lakhs as cover for the undrawn portion of each credits allowed to societies. The central banks had also Rs. 12·03 lakhs as undrawn cash credit with the Provincial Bank as security against co-operative paper. Thus for a total fluid resource of Rs. 41·67 lakhs, which the Central banks had to maintain on 30th June, 1938 as cover for both outside and inside liabilities, they had resources amounting to about 84·27 lakhs.

The Madras Provincial Bank had to maintain fluid resource on 30th June, 1938 for Rs. 31·70 lakhs to meet both outside and inside liabilities; these were amply covered and there was an excess of fluid resource of Rs. 60·96 lakhs. As it stands at present the position of fluid resources both in Central banks and the Madras Provincial Bank is very satisfactory.

Principle and Test for sanction of loans

The funds of central banks are generally utilised for the purpose of granting loans to primary societies. Generally loans are sanctioned to societies on their past history based on audit and inspection reports and the information furnished by societies and supervisors or bank

inspectors as regards adequacy of security, income, repaying capacity, etc. The application forms for loans sent to the central banks contained the following information.

Admission number; name; net assets; outside debts, mortgage debts, other debts-total dues to society (long term and short term); overdues (long term and short term); loan now applied for, purpose; security for new loans; if mortgage security is offered—survey number—extent—value; if surety loan, surety's admission number—name—net assets; period of loan; date of repayment proposed; applicant's income from agriculture and other sources; applicant's expenses—cultivation and other household expenses; saving capacity; signature of member.

In many cases financing banks disposed of loan applications without proper enquiry. The writer in his investigation in the South Arcot District found out that the central bank of Cuddalore gave loans to many societies without properly scrutinising the loan applications. In fact favouritism played a great part in the sanction of loans. The Karunguli Society, South Arcot District, was granted loans by the Central bank even though that society was in heavy overdues to the Central bank. The president of the society was also the President of the Central Union and the supervisors did not trouble themselves to examine the accounts of the society. The result was benami transactions grew up and overdues swelled up and, about the beginning of last year, the society was almost on the verge of liquidation.

Again, in assets and liabilities and in arriving at the repaying capacity, the society bases its estimation on the property statement prepared by itself and supposed to be checked by the supervisors. The executive staff of the Central Bank should be very careful in the scrutiny of the property statement, for on it is based the fixation of normal credit of the society. Central banks may scrutinise applications for loans in much the same way as the Central Land Mortgage Bank does in regard to applications received from primary land mortgage banks. The individual normal credit should be carefully examined in the bank by the secretaries and executive officers competent for the business and on the basis of such meticulous examination the borrowing limits of both individual members and societies should be based.

The present policy of central banks is to confine themselves to short-term loans not exceeding twelve months or, in some cases, eighteen

months and intermediate loans extending to a period of about six years. In the earlier years, central banks and societies were granting loans for periods extending to ten years but, with the inauguration of Central Land Mortgage Bank and the spread of primary land banks, the present policy of Central banks confining themselves to short-term and intermediate credit has been evolved. It is very necessary that loans given by central banks should be only short-term and intermediate because the funds of central banks are derived for the most part from short-term deposits and cannot for obvious reasons be locked up in long-term loans. The outside deposits (exclusive of deposits within the movement and deposits on current and savings bank account and recurring and provident fund deposits) held by Central banks are classified according to the date of maturity in the quarterly financial statements. For the quarter ended 30th June 1938, the position was as follows:—

	Deposits and debentures falling due in the next 30 days			
	In the next 11 months.	In the next 11 months.	In the next 11 months.	
	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs	Rs. Lakhs
30th June, 1938	8.98	75.21	85.64	18.39
		In the subse- quent years 11.22		

These figures show that the bulk of the deposits matures for repayment in a period of two years. So according to sound banking principles undue reliance should not be placed in the renewal of deposits to make long-term investments out of short-term deposits. Taking into account deposits of all kinds including reserve fund and other long-term deposits, the position is as follows (30th June, 1938)*

*Prepared from tables given in the Evidence Report of the Madras Co-operative Committee, Vol. I. 1939.

Deposits	Rs.	Percentage to
Short Term	Thousands	total deposits
loans	18,997	51·3
Intermediate		
(a) Between 1 and 3 years	6,716	18·2
(b) Between 3 and 6 years	1198	3·5
Long Term	9840	27
Total	36,751	100·0

The deposits classified long-term and which form 27% of the total deposits are generally for periods over six years and except reserve fund deposits of societies, they represent only a very small proportion of the borrowing of central banks. But the main long-term funds available with central banks, viz., share capital and reserve fund deposits of societies are already locked up to meet overdues of societies which correspond to long-term investments. Hence central banks should confine themselves to short-term and intermediate loans. It is suggested by some that ten year loans for the purpose of discharging prior debts should be given to small ryots. In the first place the deposits of central banks are not for such long periods. Secondly such loans will conflict with the operations of land mortgage banks.

The Reserve Bank of India suggested in its preliminary report "Loans must be strictly limited to cultivation finance. This should ordinarily mean the expenses in connection with the cultivation operations like ploughing, sowing, weeding, etc.; but may also include the sums ordinarily required for the maintenance of the farmer's family till harvest, or other urgent purposes like the replacement of cattle or implements, provided such loans can be repaid out of the proceeds of the harvest in a normal year. If loans have to be issued which cannot be repaid in one year, e.g., for the replacement of cattle, such loans should not extend beyond two years and provision should be made for their repayment in equal instalments. Such loans should also be clearly distinguished from annual loans and should not exceed a comparatively

small proportion of the societies' business." Though the purposes specified by the Reserve Bank for limiting all loans by societies to two years are reasonable, it is doubtful if the loan taken for the purchase of cattle or implements could be repaid within two years. Intermediate loans, payment of kist, purchase of cattle, improvement of land etc., form a fairly big proportion of the loans taken by the societies. The following table shows the purpose of borrowing:—*

	1936-37		1937-39	
	Amount Rs. Lakhs	Percent	Amount Rs. Lakhs	Percent
Cultivation expenses	28.82	23.1	54.35	30.8
Purchase of cattle	8.08	6.5	9.92	5.6
Payment of kist	12.25	9.9	20.07	11.4
Improvement of lands	6.36	5.1	10.57	5.9
Purchase of raw materials	1.34	1.0	1.45	0.8
Trade	16.19	12.9	22.09	12.5
Education	0.14	0.1	0.15	0.1
Building, buying or repairing houses	4.35	3.4	4.99	2.8
Manufacture and purchase of carts	0.31	0.3	0.36	0.2
Purchase of lands	3.62	2.9	4.19	2.4
Purchase of food, etc.	10.47	8.4	20.12	11.5
Total Productive purposes	91.94	73.6	148.28	84.0
Paying off prior debts	30.94	24.9	25.26	14.4
Marriages & ceremonies	1.26	1.0	1.43	0.8
Litigation and other non- productive purposes	0.55	0.5	1.37	0.8
Total unproductive purposes	1.81	1.5	2.80	1.6
Grand total	124.69	100.0	176.34	100.0

*Prepared from the Report of the Working of the Co-operative Societies Act 1936-37, 1937-38.

The table indicates that productive loans for other purposes than cultivation are so large that their importance cannot be minimised. A better idea could be formed if loans classified according to periods are studied.

Period	1936-37		1937-38	
	Amount Rs. Lakhs	Percent	Amount Rs. Lakhs	Percent
(1) Loans not exceeding one year ..	110.20	32.0	150.43	40.2
(2) Loans exceeding one year but not exceeding two years ..	18.71	5.5	18.11	4.8
(3) Loans exceeding two years but not exceeding five years ..	159.72	46.5	155.54	41.6
(4) Loans exceeding five years ..	55.07	16.0	50.07	13.4
	<hr/> 343.70	<hr/> 100.0	<hr/> 374.15	<hr/> 100.0

Short-term loans up to two years form 45% in 1937-38 and 37.5% in 1936-37. Next in importance come loans varying from two to five years—the percentage being 46.5% in 1936-37 and 41.6% in 1937-38. If these intermediate loans which are popular are dropped out from the agricultural societies, then there will be a big gap in credit which some other agency should come forward to fill up. Hence the recommendation of the Reserve Bank to limit loans to two years cannot be adopted without great inconvenience to ryots who would be driven to moneylenders by such action.

One important factor that should be observed by central banks is a proper regulation of lendings with reference to borrowings. The working capital for the financing of intermediate loans from two to six years may be derived from the ordinary short-term deposits, but the bulk of such capital must be obtained by long-term deposits repayable in convenient instalments not exceeding 6 years, by provident deposits, by issue of cash certificates and the like.

Table No. 56 of Appendix II will show the position of borrowings in relation to investments in Central banks on 30th June, 1938. The percentages of short-term investments to total investments in the Central banks of Anantapur, Vellore, Cuddalore, Ramachandrapuram, West Godavari, Vizianagaram, Kistna, Srivilliputtur, Tanjore, Tinnevely and Vizianagaram are 70.80, 64.40, 65.90, 70.00, 84.00, 91.50, 77.40, 71.70; 84.67, 65 respectively. In these banks the investments in short-term loans exceed the short-term deposits. Such increase of short-term loans to deposits is not detrimental to the Central banks. In fact the Central Bank is safe in indulging in such business.

In the Central Banks of Hospet, Kurnool, Malabar and Salem the percentages of intermediate loans to societies against total investments are 74, 83, 80 and 74.49 respectively. Intermediate loans in these banks exceed the total borrowings of societies. Evidently these banks have been using short-term deposits for intermediate loans in addition to the reserve funds, share capital and other owned capital of the banks. Such investments will result in grave danger to the banks.

In the Conjeevaram Central Bank the investment in long-term loans is 63% of the total investments. The long-term loans far exceed the long-term borrowing. If the loans are given out of short-term and intermediate deposits, then the central bank should have been adopting a very imprudent policy.

The short-term deposits of the Madras Provincial Co-operative Bank as on 30th November, 1938 are composed of

	Rs.
Current account ..	55,18,471
Prudential deposit account ..	14,66,694
Fixed deposits ..	64,63,724

Short-term loans on 30th November, 1938:—

	Rs.
To Central banks ..	17,69,285
Unencumbered Government securities ..	65,49,402

Much of the money in the Provincial Bank is lying idle,

It must be the first principle of a central bank to use short-term borrowings only for short loans. Where the demand for short-term loans is greater than the short-term borrowings, then deposits for longer periods may be utilised for the grant of such loans. But when there is a greater demand for intermediate loans, such transfer from short-term deposits should not be easily made without reference to the amount of short-term deposits.

Reserves

Central Banks set apart 25% of their net profits towards the reserve fund and the balance is distributed as dividend, honorarium, etc. Not more than 9% per annum is paid as dividend on paid-up share capital. Central banks are permitted to invest one-half of their total reserve funds in the Madras Central Land Mortgage Bank. In addition to the reserve fund there is found to be a need for creating bad debt reserves in Central banks as a second line of defence. Some central banks carry a portion of the net profits to the bad debts reserve according to their by-laws.

Rectification and Consolidation of Societies

The huge increase of dormant societies necessitated the Registrar in 1930-31 to launch upon a system of rectification and consolidation of societies. The principal features of the scheme are—

“ (i) Examination of loans (classification)—In order to see whether or not all the loans in each society are adequately secured and to see whether any immediate action is called for, a detailed examination in each outstanding loan is necessary.

A classification of loans may be made as follows:—

(a) Loans which stand on good security and the borrowers of which can be expected to pay the loans out of their income within the given period or within the period to be extended.

(b) Loans which stand on inadequate security but the borrowers of which can give and are willing to give additional security and to repay their loans within the given period or within the period proposed to be extended.

(c) Loans which stand on inadequate security the borrowers of which are not either in a position to repay the loans out of this income or to furnish additional security. The history of each loan should be noted and suitable action suggested in each case. In the course of investigation the amount of debt which may prove bad or is doubtful of recovery should be ascertained and noted.

(ii) Lines of work—In respect of loans classed under (c) action should be taken at once. The Panchayat should be advised to file references under section 51 against defaulters and awards should be obtained and executed quickly through the department. Penal interest on loans, if any, may be waived. If the circumstances of a borrower justify further concessions, such as a reduction in the original contract rate of interest etc., the question should be examined by the general body of the society and suitable by-laws passed. In very bad cases, if a society pays a central bank loan in full collecting the amount proportionately from the borrowers the balance of money due may, with the sanction of the Deputy Registrar, be written off. Where the interests of the Central bank will be affected, the consent of the bank will have to be obtained.

For loans which do not stand on adequate security but which may be secured borrowers should be required to produce fresh security. Wherever necessary, production of encumbrance certificate should be insisted on. The additional security may be taken by means of a supplemental bond without varying the original conditions.

Extensions may be given in deserving cases. Borrowers who can raise credit elsewhere or who can sell their property of their own accord should not ordinarily be given extensions.

The scheme should be worked in compact areas; when the work in an area is completed, another area should be selected.”*

The central banks of Trichinopoly, Calicut, Coimbatore, Hospet and Mangalore, completed the examination of loans in a number of societies. The results of the examination up to the end of the year 1937-38 according to the Report of the working of the Madras Co-operative Societies Act for 1937-38 are:—

*The Madras Co-operative Manual, Vol. I, pp. 104-105.

(1)	Number of societies in which examination was conducted	7105	
			Rs. Lakhs.
(2)	Total amount of loans including interest involved in them	..	303·01
(3)	Of the above sum the amount which stands on adequate security	..	211·30
(4)	The amount which stands on inadequate security	..	91·71
(5)	Of this, the amount for which additional securities have been obtained and the amount collected	..	20·01
(6)	Balance still ill secured	..	71·70
(7)	Estimated bad debts in these societies	..	39·86
(8)	Of this the amount that will affect the Central Banks.		9·2
(9)	Amount of loans collected during rectification work..		59·61
(10)	Reserve fund of Central Banks	..	33·49
(11)	Bad debt reserve of Central Banks	..	19·69

In his report for this year 1937-38, the Registrar has remarked on the progress of rectification work as follows:—

“The Central Banks are taking steps to collect or secure the loans on inadequate security but this is proceeding at a rather slow pace. They have been exhorted to make systematic and sustained efforts to push through this stage in the rectification work. The special concessions suggested for D class societies were continued during the year to the members of all classes of societies under certain conditions. It is hoped that Central banks will avail themselves of the opportunity and realize a good portion of the ill-secured debts. It is no doubt inevitable that central banks will have to write off a portion of their dues as bad and irrecoverable; but this will not affect their financial equilibrium as they hold strong reserves.”

Owing to depression and the consequent inability of borrowers to repay their loans regularly, societies were forced to obtain decrees or take out execution proceedings against defaulters. The number of decrees and the amount involved as on 30th June, 1938, are 52,871 and Rs. 62·32 lakhs respectively. Certain concessions have been extended to Societies and to their members in order to recover the arrears without

undue hardship and to place the societies again on an active working basis:—

(1) Reduction in the lending rates of Central banks and primary societies on new loans.

(2) Waiving of penal interest by Central banks on overdue instalments of interest and the complete deletion of penal interest from the by-laws of primary societies.

(3) Collection of interest by central banks and societies at $6\frac{1}{2}\%$ and $7\frac{1}{2}\%$ respectively on all outstanding loans.

(4) Examination of every loan in the "D" class societies and an accurate estimate of their assets and liabilities. The guiding principles for arriving at this are—that no member shall be asked to pay more than double the principal; or that no member shall be asked to pay more than the principal plus interest calculated at $6\frac{1}{4}\%$ from the date of disbursement of the loan; or 25% of the amount outstanding may be remitted; to induce members to repay, a further remission of the principal at a fixed percentage of the loan has been suggested to be offered to those who pay their loans either immediately or within three months. To those who cannot pay in this manner, time is allowed up to one year. In the case of loans referred for arbitration, the arbitrators should be asked to allow interest at only $6\frac{1}{4}\%$ on decretal debts.

In cases where the debts seem absolutely impossible for collection (e.g., cases where the mortgaged or other properties of the defaulters have already been sold in auction and which, therefore, stand without any security whatsoever, cases where the borrowers and sureties have either no properties or are no more; cases where loans have been allowed to be time-barred) and the only course seems to be writing them off, central banks should not hesitate to use their bad debt reserve for such purposes. In cases where borrowers furnishing additional security accept to repay the loans in instalments over a long period, the loans should be transferred to the land mortgage banks in the area. Wherever it is possible to realize a portion of the dues immediately, central banks should give as much concession to the borrowers as possible. Effective coercive steps should be taken wherever necessary. It would be in the fitness of things if central banks employed special staff for this purpose whose duty should be to take up society after society, examine each ill-secured loan

and suggest the course of action that should be adopted to realise or secure the loans.

The quarterly progressive report of rectification (30th September, 1938) in the Conjeevaram Central Bank is very encouraging. It is said that the Central Bank completed rectification work and every loan in every society was examined and action taken thereon by getting either additional securities or taking coercive action or allowing the loan to continue without action for a further period in accordance with instructions contained in the circular of the Registrar. Regarding the present condition of societies in the District it was proposed to work up the new scheme by which lands that came into possession of societies in the course of execution of decrees will be disposed of by conveying them to original owners or other villagers. For this it was requested to address the Government to get for the bank a loan of Rs. 5 lakhs and the matter is still pending. It is really encouraging that at least a central bank is taking a bold step in the right direction. It would be better if the Conjeevaram Central Bank and other Central Banks which have finished the rectification work in societies adopt the Burmese method of rent purchase system of lands in the case of those whose lands were lost to societies. The Burmese rent purchase system will be examined in a later section.

Banking unions and central banks: Of late, there has been a talk of the introduction of banking unions both by the Reserve Bank of India and some co-operator. In Bulletin No. 1 of the Reserve Bank of India, working of the Union at Kodinar (Baroda State) is given. The author of the bulletin stresses the importance of starting multi-purpose societies and small banking unions working in limited areas and confining their membership to primary rural societies and discharging all the functions of financing, supervision and education. The Reserve Bank realizes that the organization of such unions in place of central banks would be more difficult because of the opposition of the banks. But it has been suggested that central banks might still continue financing such unions formed by sub-division and might take up urban co-operative banking.

As regards the finance of the banking union, the Reserve Bank thinks that though the elimination of individuals from being members would deprive the banking union of the necessary men available to command the confidence of the public and attract local deposits, the con-

nection with Government would infuse confidence in the public to deposit with the unions. But the capacity of a Central Bank which has a wide area to tap, which has the reputation of being connected with the Government and which has influential members on the board will be far above the capacity of a banking union which will have to tap the finances from only a small local area. The result will be the banking union will have to turn to Provincial Bank for loans and the Provincial bank's rates are always higher than the rates at which central banks are able to raise funds locally.

Again the directorate of a banking union consisting as it does of representatives of the borrowing societies only is likely to overfinance and show undue leniency in the matter of recovery to particular societies. At present in the board of directors of central banks individual members are included and other members representing banking and commercial interests are co-opted as members. This system acts as a check against the system of overfinancing. In spite of such safeguards there was overfinancing by Central Bank of Cuddalore in the case of certain societies. Hence the case is all the more against banking unions composed of societies only.

Supervising unions composed of representatives of primary societies are a great failure in this Presidency because supervisors appointed by members who represent the societies they have to examine cannot do full justice to their business. Banking unions which boast of combining supervision and financing will not be better in intensive supervision than supervising unions.

The introduction of banking unions in each taluk will only multiply the cost of administration at the same time minimising the chance of getting sufficient funds. The Maclagan Committee was of opinion that a Central bank should cover as large an area as is compatible with convenience and efficiency. The Indian Central Banking Enquiry Committee was of opinion "generally speaking central banks should operate over fairly large areas with a good number of societies affiliated to them and should not be too small". The Punjab Provincial Banking Enquiry Committee did not appear quite enthusiastic about these unions. The Committee states "Financially, the unions are much less important than the banks, and as we made no special enquiry about them, we need only say that they mostly operate within a radius of 10 or 15 miles, their mem-

bers are all societies, and none of them has a working capital of more than five lacs. On the other hand the biggest central bank has a working capital of 78 lakhs." The Bengal Provincial Banking Committee stated "A central bank should ordinarily expect to deal at once or within a reasonable time with at least 200 or 250 societies. We agree with this view and unless its area of operation is too large or the means of communication exceptionally bad, no central bank could be split up before the number of affiliated societies reaches 300, and even then no new central bank should be formed until a sufficient number of men of intelligence, influence and knowledge of co-operation can be found in the locality to form its directorate."

Hence there is no need for the formation of banking unions. It would be very difficult to oust the long-established central banks and even if attempts in that direction are successful, they are not conducive to the best interests of co-operation.

Mr. Prakasam, former Minister for Revenue of the Government of Madras, opening the Multi-purpose societies at Alamaru said that the Multi-purpose societies should form into banking unions, which should form as branches of the Provincial Bank. Even the statutory Report of the Reserve Bank of India did not suggest the abolition of central banks. The Reserve Bank intended the banking unions in their turn to be federated into central banks. There is no precise indication in the scheme of Mr. Prakasam of the relations between the Provincial Bank and the banking unions. The question whether banking unions with their own membership and independent constitution can be branches of the Provincial Bank is a baffling one.

Central banks as branches of Provincial Bank.

Another suggestion put forward is that the existing central banks may be abolished and in their place branches of Provincial Bank can be opened. It is contended that such a step would eliminate intermediaries between the provincial bank and the primary societies and would thereby cheapen credit to the ultimate borrower. In Bombay where side by side with central banks branches of Provincial Bank operate, it has been recognised that there is a greater need of an intervening link between the Provincial Bank and the primary societies. So the Bombay Provincial Banking Enquiry Committee recommended the creation of

central banks in place of branches of Provincial Bank. The central banks attract deposits locally, the rates on such deposits being half per cent lower than the rate at which they borrow from the Provincial Bank. The central banks in Madras are now able to supply all the credit needs of the societies, assisted by the Provincial bank to maintain adequate fluid resources to meet their commitments to their creditors. The following table will show what an insignificant part loans from Provincial Co-operative Bank pay in the loaning operations of central banks with their societies:—

*Year.	Working capital of central banks. Rs. lakhs.	Loans borrowed from the Provincial Bank. Rs.	Loans repaid to the Provincial Bank. Rs.
1931-32	576.28	19,20,580	66,56,871
1932-33	588.74	5,52,005	34,37,563
1933-34	553.21	10,414	5,55,094
1934-35	511.13	7,44,250	4,00,882
1935-36	501.43	11,87,500	12,77,894
1936-37	526.00	9,22,625	9,73,959

This table is enough to prove how unfounded is the plea that money is made costly to village societies, because of the intervention of central banks. Even where the central banks have borrowed from Provincial Bank, such borrowings represent only a very small proportion. Again abolition of central banks and the establishment of branches of Provincial Bank will not in any way lessen overhead costs, for it would be necessary to incur the same expenditure to run the branches. So it will not be possible to supply money cheaper to ultimate borrowers. Excessive centralisation of finance in a province where the economic conditions are not equal, has its own disadvantages. The connection of the apex bank and the branches will be so close and intimate that the defects and faults

*Madras Co-operative Journal April, 1938. Co-operative Credit Structure by Ramadas Pantulu.

in one part of the structure will react on the whole, bringing the entire structure to grief. The proposal will kill local enthusiasm and initiative and will keep away the vast body of honorary workers in the field. To abolish a system of central banks, which is the envy of other provinces is the greatest disservice that could be done to the movement. The defects in the co-operative movement are not due to the financing agencies. They are due to causes such as depression, accumulation of overdues as a result of the diminished repaying capacity of the peasants, defective marketing facilities and lack of enthusiastic panchayatdars in the villages. So the movement can be rectified not by abolishing the independent central banks, but by rectifying the various faults in the economic system.

V. *Defects of Primary Credit Societies.*

The Co-operative movement in this Presidency has not developed on sound and efficient lines. While the principles laid down in the by-laws of co-operative societies which we examined in the previous sections are sound and afford facilities for the development of the whole life of the villager including moral and spiritual, those principles are not correctly observed by the men who are actually in charge of the societies. Selfless men who could work patiently in little unknown villages are rare in India. In the villages where the majority of the population are illiterate and lack civic spirit and cannot assimilate the principles of co-operation, the panchayats are usually composed of a greedy few and they continue to cling to office for years and mismanage the affairs. In the survey conducted in the South Arcot District such cases were often found. In one society at Karunguli, South Arcot District, the Presidentship of the Panchayat was first held by the father, and then by the son, and when the society was superseded, the father was acting as Manager. The Panchayatdars themselves were in heavy arrears and a large amount was due from the President. On enquiry in the village, it was found that benami transactions were prevalent in the society. In the name of his "Pannayal", the President had taken loans. Moreover in the grant of loans to the society the central bank was very liberal, for the President of the society was a friend of the President of the Central bank. Cases of the Panchayatdars being defaulters and at the same time continuing in office were common in many societies. The supervisors and auditors should have brought such cases to the notice of the Central bank and the Registrar, and both the bank and the Department should

have taken immediate action. In another society, an illiterate member was acting as the secretary. He was not able to count more than hundred. Though the supervisor might write the books of account once in a month, a society with an illiterate secretary cannot expect to flourish for long, for there will surely arise some dispute regarding the payment of instalments by members. The society at Kottavacheri did not take any loans from the Central Bank nor lend to the members since 1930. This can mainly be attributed to the lethargy of the managing committee. In many societies factions between two village parties were common. So what is needed in the first place is an effective system of supervision and audit. Besides, the offices of the President and Secretary should not be held by the same persons for a long time. Under existing rules there are certain disqualifications prescribed for membership of Committees. To safeguard against mismanagement in the society, it must be laid down that a President or Secretary should not be continuously in office for more than two years. The Registrar should have power to remove undesirable men from office after due enquiry.

Supervision and Audit.

Supervision has been relegated to non-officials in the Madras Presidency. Managing bodies of unions were mostly composed of primary societies. To take only one instance, the President of the Kaunguli Society, South Arcot District, was for a long time President of the local union with the result that the supervisors appointed by the Union and who were under his control dare not point out the defects of the society or the President. The supervisors colluded with the management of the society in their misdemeanours. The property statement on which the whole credit of the society is to be based is prepared by the society and it is bound to be the most unreliable statement as it is prepared by borrowers. The duty of the supervisors is to check the property statement periodically and rectify the defects. Rarely supervisors bother about the property statement. In the Karunguli society when I asked for the property statement, I was told that that book was missing. And yet the borrowing capacity of the society was based on this important statement. It is important, therefore, that supervision should be vested in the hands of a disinterested and independent agency. Financing banks are not suited for such control because representatives of the societies are on the board of management of control banks. In the present state of affairs, it is important that the co-operative department should take up the

supervision work though it may be an added burden on the Government. The money spent in this direction would be money well spent. The failure of the co-operative movement is mainly due to a vigorous policy of deofficialism in a country where the sense of public spirit has not yet developed as in the West. Hence selfish motive and personal interest were given free play in a movement which could only thrive in an atmosphere of mutual good will, free from greed and jealousy.

Another reason why the department should take up supervision is this. Audit is carried on by the department and the defects pointed out in the audit report can be effectively carried out if supervision of societies is vested in the same agency. When the societies are based on an efficient footing and when the villagers realise sense of responsibility, the work of supervision can be vested in a non-official body. Specialised public auditors in co-operative accounts may be recruited on a provincial scale under the Provincial Co-operative Union or Institute, which may pool the audit fees levied on all societies in the Province, appoint a graded and competent staff to audit and to advise on the lines of the continental co-operative auditors. At present it is necessary that a separate chief auditor who is immediately responsible to the Registrar of Co-operative Societies should control the auditors of societies. The Deputy Registrar who controls the auditors in his district is responsible for the proper conduct of the societies in his district. Hence it is not conducive to efficient working if the auditors are controlled by him.

Liability.

As we found in an earlier section most of the co-operative societies in the province are based on unlimited liability. The liability can no longer be enforced against any society so long as it retains its corporate character. It comes into operation only after liquidation of the society and for the purpose of issuing contribution orders even against non-defaulting and non-indebted members with assets when the loans cannot be recovered from the borrowers themselves. Liability enforced in this manner scares away good and solvent residents in the villages from joining the society and many good non-indebted members left the society. The vigilance and mutual knowledge of each other's affairs are fundamental principles of unlimited liability and they are absent in the present day villages. The plea that if societies are limited in character,

central banks will not lend them does not hold good because, urban banks and sale societies based on limited liability are financed by the central banks. Unlimited liability has not yielded at any rate in our country, the moral and material results that were expected of it. In practice it is not easy of enforcement. It has not proved a greater guarantee to creditor against loss than limited liability. In fact it has kept out intelligent and propertied men who would have been invaluable in managing the societies efficiently. Hence unlimited liability in the Madras Presidency should become the exception and not the rule especially when societies of a multi-purpose character comprising a wide area are becoming popular. In Great Britain and the United States of America,, liability is strictly limited. As Catrill says "the question of unlimited liability is not a matter of principle but of expediency." Wherever unlimited liability is properly understood and voluntarily accepted as in Denmark, Holland and Finland where members chose unlimited liability in spite of their being allowed to have any kind of liability, it is best to leave such societies undisturbed. In general it is best to adopt a less rigorous and less abstract liability with more substantial safeguards. In a joint memorandum by some members of the co-operative committee it is rightly said "if it is considered that the confidence of the money market can be retained only by having some more security for the creditors than the paid-up share capital and reserves of the society, then we may provide for a fixed reserve liability, say twice or thrice the paid-up share capital. Here every member knows the extent of his liability and the co-operative contribution he has to make to the common deficit of the society."

Property Statement.

The property statement is a very important document to be maintained by an unlimited liability society. The Townsend Committee remarked that they observed a general lack of thoroughness in the preparation and revision of property statements. Recently the circular passed by the Registrar regarding the maintenance of property statement is a little encouraging. According to the circular the property statement should not only include figures showing the assets and liabilities of the members but should also indicate clearly their repaying capacity mentioning accurately the income of the members. In the matter of new societies, central banks should be asked to instruct the supervisors to examine the correctness of the property statement very carefully and

to test its accuracy by independent enquiries in the village. The supervisors should collect reliable and correct information from the village officers. The information so obtained should be tested by independent enquiries in the villages. The periodical revision of the statement should also be made more systematic and thorough. The property statements so revised with the help of supervisors should be sent annually to the financing banks and unions. The supervisors should be asked to certify to the correctness of the statements whenever they are prepared. The Registrar considers it necessary, that the Central Bank should appoint special officers who will go round the cities soon after the revised property statements have been received by the banks and check the correctness of the statements. At least he expects that a test check of some statements should be made. Regarding the checking of the correctness of the statements by the department during audit, the Registrar believes that the statement if it is to be accurate, should not be prepared by the general body but by the office bearer. The auditor should gather as many members as possible, read out the statements to them and verify the correctness. The auditor should also make independent inquiries in the villages and satisfy himself of the accuracy of the particulars.

The circular of the Registrar lays down clearly the need for proper checking of the property statements. If the numerous checkings of the statements are properly carried out, there is every possibility of correct property statements being placed on record. It is because of false statements that societies are overfinanced more than their real borrowing power and individuals too are overfinanced. The result is with the economic depression they have increased the arrears in societies.

The Problem of overdues.

This leads us to the question of overdues and the problem of effectively tackling them. In the scheme of reorganization of rural co-operative credit society, the question of the accumulated debts of members presents a real difficulty. Reference has already been made to the increasing amount of overdues in agricultural societies.* The position is not quite encouraging as may be seen from the following statement (In this statement the overdues of land mortgage banks, credit societies,

*Vide Appendix II—Table 47 on overdues.

purchase and sale and other agricultural societies are taken into consideration).

Year .	Percentage of balance (principal overdue) to demand by members to agricultural societies.
1927-28	42·71
1928-29	40·72
1929-30	46·00
1930-31	65·16
1931-32	62·95
1932-33	67·09
1933-34	70·28
1934-35	68·12
1935-36	65·35
1936-37	58·76
1937-38	55·45

The principal reasons for the overdues have been examined while we examined the working of the primary credit societies and central banks and the defects of the societies. The main reasons have been summarised by the Townsend Committee. They are,

- (1) Bad harvests;
- (2) Illiteracy and ignorance of co-operative principles in primary societies, and indifference of Panchayatdars who are in many cases themselves defaulters;
- (3) The lack of proper supervision due to ill-paid and ill-equipped non-official staff;
- (4) The sudden withdrawal, without due notice, of the department from supervision;
- (5) Failure to recognize the financial and co-operative responsibility on the part of Central Banks;
- (6) An exaggerated sense of security in the minds of financing institutions, which is based on a wrong impression of the implications of unlimited liability; and failure to realise the seriousness of the results of enforcing that liability;
- (7) The lack of proper attention to the granting of extension;

(8) The granting of loans without proper consideration of their purpose, and of the repaying capacity of members;

(9) Benami transactions;

(10) The fact that, even when penal interest is levied the rate of interest charged is lower than the market rate in many districts, and members who have also borrowed from money-lenders in consequence repay the latter first. Decree interest is also lower than the market rate; execution proceedings present much difficulty, and the low rate of interest encourages defaulters to raise every possible obstacle;

(11) The failure to take prompt and sufficient steps for the recovery of overdues."

As already described, in many societies examined in the South Arcot District, overdues were due to bad management and the benami transactions of the Panchayatdars. A case in point is the Karunguli Co-operative credit society. In recent years the continued fall in agricultural prices has reduced and even wiped out the margin of profits.

The endeavours of central banks and societies to lighten the burden of overdues and recover the loans from members took several forms. The concessions given to borrowers are enumerated in an earlier section. Briefly they are the reduction in lending rates, waiver of penal interest, examination of every loan in the D class societies and an accurate estimate of their assets and liabilities, writing off bad debts and grant of long-term instalments. Execution of decrees in the case of members who are in arrears is another method of collecting overdues. The progress with regard to the departmental execution of the decrees and awards for the past five years is as follows:—

	Number of execu- tion petitions.	Amount involved Rs. (Lakhs)	Amount collec- ted. (Rs. lakhs)
1933-34	14783	28.40	3.65
1934-35	27807	51.97	10.65
1935-36	39433	72.35	14.76
1936-37	42631	73.99	17.01
1937-38	43527	70.56	16.40

There appears to be inordinate delay in the execution proceedings. There has not been very appreciable reduction of overdues by depart-

mental execution. Such action taken against members defaulting deliberately will be both salutary and effective. But where arrears are the result of the poor repaying capacity of the members such drastic action has no effect. Execution of awards has led to the conversion of the overdue loan into owning of immoveable property by the bank. Purchases for cash at sale held by the departmental officers are very rare. Cash purchases take place only when the adjacent owner of the properties, or some one interested in the particular property knows and feels that he is purchasing the property for a mere song. In all such sales for cash, the amounts realized bear a small proportion to the worth of the property. The departmental officer's execution is not popular with the people though the same may be acceptable to the societies. He identifies himself more often with the society as against the debtor and is not able to shake off the impression that he is there to protect the interests of the society. Thus departmental execution in the reduction of overdues is not satisfactory.

Many solutions have been put forward for the collection and scaling down of overdues. When loans given for short and medium periods have unfortunately become long-term loans by non-payment, but the borrowers have some assets to offer as security for these loans, they may be scaled down to the extent possible and the balance put on a long-term basis by obtaining fresh mortgage bonds for such periods as may be decided upon in each case, having regard to the size of the loan and the repaying capacity of the borrower. The creditors should be assured about the repayment of their deposits by smaller collection on the new basis. So it has been proposed by some that the central banks concerned should provide themselves with some long-term funds either in the form of actual long-term money raised, or in the form of assurance of provision for such funds from the Provincial Bank. It is said that the most suitable way of dealing with the question is for the Provincial Bank to raise when necessary funds needed by the central banks, by floating debentures at $3\frac{1}{2}$ or 4 per cent. But the question is whether it would be wise for the Central bank and the Provincial Bank to deal in long-term loans when there is another agency to deal with such loans.

The Reserve Bank in its Statutory Report recommended "that the overdues and long-term loans should be separated and put on a proper footing" and stated that "these overdues should be brought down to a

level at which there was a reasonable prospect of repayment out of profits of agriculture within a reasonable period, say twenty years, partly by writing them off from reserve and other funds and partly from recovery from sale of part of the member's assets and spreading out the remainder into instalments and transferring them to some special agency equipped to deal with long-term credit facilities such as a land mortgage bank." The Reserve Bank realises the fact that it would be difficult to follow this course when the funds of the societies are not sufficient to cover the losses. The Statutory Report says "Where this is the case it is better to face the facts and decide what agency can best bear the losses. Liquidation of the society is by itself no solution as even after selling up the members, the result may only be the acquisition of land by the society and the losses may still be left uncovered. Liquidation also not only kills the society but brings the movement into disrepute and leaves a void in the structure of agricultural finance. It is better to follow the bolder policy of deciding at the outset what losses are inevitable and make provision for recovering the rest in easy instalments. Side by side with this reconstruction, it is necessary that the societies should be reformed."

There has not been any satisfactory progress till recently regarding the transfer of loans of members of village credit societies to the primary land mortgage banks. The following statement will give an idea of the progress:—

Year.	Amount of loans issued by primary land mortgage bank.	Amount of loans of mem- bers of village societies trans- ferred to mort- gage banks.	Amount of long term loans out standing against members of vil- lage societies at the end of the year.	Of the amount in column (4) amount over- due.
	Rs. lakhs.	Rs. lakhs.	Rs. Lakhs	Rs. lakhs.
1936-37	38	1.75	224	125
1937-38	35	1.73	215	115

More loans could not be transferred because there has not been a systematic and exhaustive examination of the loans of members of the

village credit societies in order to transfer such loans to land mortgage banks; the test applied by land mortgage banks regarding title, valuation, repaying capacity, net income etc. was not adhered to by primary societies in the grant of loans; indebtedness of many members far exceeds the amount the land mortgage bank can easily and reasonably give with reference to the extent of land owned and offered by them as security; in some cases societies and central banks are rather anxious to retain their business which might possibly suffer to the extent to which the transfer of debts is made; in some of the old village credit societies which seem to be just like small land mortgage banks there is provision for accommodation even upto Rs. 2,000; the heavy share capital to be paid in a lump to land mortgage banks, and the impression amongst the villagers that land mortgage banks, will not sanction small loans below Rs. 1,000 and that they accommodate only the comparatively well-to-do. An enquiry was undertaken by the Central Land Mortgage Bank during the year 1932-33 to see if the long-term loans in ordinary village credit societies could be transferred to the Central Land Mortgage bank. The suggestions made to overcome the difficulties in the matter of transfer are:—(1) Co-ordination between the local co-operative unions, the land mortgage banks and the central banks either by securing more or less identical area of operations for the land mortgage bank and the local co-operative union or by having the same set of office-bearers for the two institutions or by posting suitable land mortgage bank supervisors who will work in close co-operation with union supervisors or bank inspectors. Systematic and vigorous propaganda should be carried on by the staff of these institutions; (2) Employment of additional staff by primary land mortgage banks to expedite the disposal of loan applications for small amount; (3) Extension of the period of repayment from twenty to thirty years so as to reduce the amount of equated instalments; (4) limitation of individual maximum borrowing power to Rs. 500 in places where land mortgage banks are working. Village societies should confine themselves to short term and intermediate loans and refuse loans for discharge of prior debts exceeding Rs. 100 or any other prescribed limit; (5) smaller value of shares in land mortgage banks; (6) the effacing of the impression that small loans would not be favoured by land mortgage banks by encouraging applications for small loans; (7) The adoption of a more liberal policy in respect of the ceded districts by accepting rainfed lands as security up to 50% of their market value and making provision for extension of time

for repayment of instalments during years of acute famine. If these suggestions are closely followed, there is every possibility of transferring a great number of loans to land mortgage banks and the problem of overdues would be effectively tackled.

It has been found that, in the execution of awards for the recovery of arrears, societies and liquidators have come into possession of a vast extent of lands. The following statement will give a rough idea of the position.

		Wet Acres	Dry Acres	Houses	Value Rs. (lakhs)
Societies	..	4254	9248	2654	15.65
Liquidators	..	750	2528	463	2.69
Total	..	5004	11776	3117	18.34

The management of the lands either by societies or central banks has been found to be extremely difficult. The Karunguli Co-operative Society which had acquired lands for arrears of payment, was not able to manage the lands profitably. A proposal was made for the creation of a Trustee Bank for clearance of overdue debts and for management of lands, but it did not find general favour. Another proposal was that the lands in the possession of societies should be transferred to the Provincial Bank for a period of five years while the Central Banks should manage the lands in their possession till such time as they are disposed of when there is a rise in prices. In 1938 the Board of Management of the Provincial Bank decided to help the Central banks financially in the process of transfer of lands in their possession to original owners or their relatives on the rent-purchase system with equated payments as in Burma, spread over twenty years. For that purpose the Bank was authorized to raise long-term money for twenty years by the issue of uncovered debentures bearing interest not exceeding $4\frac{1}{2}\%$ to the extent of five lakhs. The scheme was recommended for trial in some select areas. The Central Land Mortgage Bank did not favour the proposal of the Provincial Bank because it might result in a conflict of interests and there would be a competition in the floatation of debentures. Moreover, the Provincial Bank is intended for the supply of short-term

finance and it will be against the principle of co-operative banking to lock up the funds of the Provincial Bank needed for short-term purposes.

Just about this time, the Reserve Bank of India published its third bulletin on "the Recent Developments in the Co-operative Movement in Burma with suggestions for their applicability to India." The Burmese scheme of dealing with overdues may be briefly described here. The Registrar first scaled down debts to what could be recovered from the income of the members within a reasonable period, say fifteen to twenty years. In this connection Government co-operated and was prepared to bear any loss in scaling down as this afforded a chance of recovering the rest. Moreover, Government paid off all the depositors of the Provincial Bank and was the sole creditor to the Bank. A thorough enquiry was made into the financial condition of all societies and the assets and liabilities of each member. Lands in the possession of members and societies were valued and the repaying capacity of members ascertained. Only loans equal to the present market value of the lands were left outstanding against each member and the rest which could not be recovered written off. Loans reduced to the market value of the lands were then spread out into ten or fifteen instalments according to the paying capacity of the members. The Registrar asked the members to surrender their lands to societies and the lands were in turn leased to the members on a hire-purchase system by which the rents due each year should equal the instalment fixed. At the end of the stipulated period when all instalments were regularly paid the lands were returned to the original owners on a nominal payment of a rupee to satisfy legal formalities. Members who defaulted did so at the risk of losing the lands. The scheme was very popular and members who lost their lands and left the societies joined them again. Even outsiders joined the societies and took leases of the lands in the possession of societies. Thus the societies and central banks saddled with lands were able to get back their lands and the members who thought that their lands were lost for ever got them back. Instalments were allowed to be paid in kind and the marketing of the produce was carried on in a very easy way by negotiating with brokers at the threshing floor if a godown was not available. Besides many other reforms were introduced into the co-operative society and we need not discuss them here.

Some modification has been suggested for the adoption of the Burmese scheme by India. In Burma where the Government was the cre-

ditor of the Provincial Bank, it was easy to reduce debts. But in India where the Central bank has to repay the depositors, the only possible method is the utilisation of share capital, reserves and deposits of societies and the reserves and share capital of the banks for debt conciliation. As far as possible it must be observed that the depositors of central banks are not put to any loss. In India as Government does not supply funds, the question of long-term funds arises where the financing bank does not possess sufficient capital or long-term deposits. The Reserve Bank suggests that the question of raising funds by debentures and paying off short term deposits should be considered. When the purpose of such debentures is revealed there is every likelihood of such debentures not being subscribed or a high price may be asked for them. The Reserve Bank rightly believes that these disadvantages could be counteracted if the Government guarantee the debentures. Another method is to convert the existing deposits into debentures. In hard cases the permission of the Registrar may be taken to repay the deposits in full. Though the Central Land Mortgage Bank is the proper agency to finance this scheme, it cannot do so because the Bank can lend only up to 50% of the market value of the property. Hence either Government should supply the finance necessary or guarantee the debentures. An amendment in the Land Mortgage Bank Act to lend in such cases to the full market value of the lands is desirable. But then the problem of tackling variation in the prices of lands arises. To get over the difficulty of a member losing his instalments if in the middle he defaults, it has been proposed that after every one-fourth of the total number of instalments has been paid the member should be returned one-fourth of his land.

The Burmese scheme of rent-purchase has been adopted in a modified form in the Central Provinces and Berar and Bombay. It is very essential that in the Madras Presidency this system of rent-purchase should be adopted by banks which are saddled with lands.

In order to reduce overdues it has been suggested that repayments may be made in kind. The Maclagan Committee on co-operation was of opinion that grain payments should be confined to the strictest possible limits as it would complicate accounts and afford opportunities for loss and fraud. Mr. W. R. S. Satyanathan in his Report on Agricultural Indebtedness said that if only societies accept payments in kind, the overdues would be reduced rapidly. In Burma, in the process of reconstruction of societies, one of the conditions imposed is that repayments

of instalments should be made in kind as in the case of money-lenders. The Society unlike the moneylender took only just the quantity of produce necessary to meet the long-term instalments. Moreover payments in kind enable the societies to sell the produce of the members in bulk. The contention that variation in prices of commodities would upset calculations is met by the Reserve Bank which states "The member should be given to understand that though for convenience the amount of produce he has to pay is fixed before hand, what the society needs is the amount of instalment equivalent in value to the long-term instalment and the crop loan he has to repay and therefore if the amount previously fixed does not come up to this, he has to make additional payments. On the other hand, if the produce given by him fetches a higher price than what is needed, the excess will be refunded to him.... The scheme is intended to educate the members in the advantages of joint sale and to ensure this, repayment in kind should not be absolute but relative to the price obtained, so that the member realises exactly how joint sale benefits him.' The question of storage accommodation came up for consideration of the Burma Land and Agriculture Committee 1938, and it was found that the cost of a society godown was small and the loan required for its construction would probably be easily repaid in three or four years. At present in the Madras Presidency loans are advanced to sale societies for the construction of warehouses though in a few cases village societies have also been granted a subsidy from the Government of India grant for rural reconstruction to enable them to build up village hall which will serve the purpose of godown also. This problem is fully discussed in the chapter on Marketing. It is however necessary that the villagers should be given an opportunity to pay their dues in kind and the difficulties in the way can be easily obviated as the Reserve Bank has suggested.

Where every attempt is necessary to scale down overdues and collect the arrears, it must not be forgotten that the chief aim should be to reconstruct societies so as to prevent further accumulation of overdues. This leads us to the question of starting multi-purpose societies and controlled credit.

VI. *Multi-purpose societies and controlled credit.*

The idea of the multi-purpose society is not a new one. Even Raiffeisan's societies aimed at "promoting material well-being and also

preparing the ground for the moral and religious activity". Raiffeisen stressed the fact that the "bank, directly or indirectly, should be the centre of village life." Catrill in his Report on Agricultural Credit and Co-operation says "As contemplated by Raiffeisen, the local society was apparently to represent a co-operative organization which primarily furnished credit to its members but which also bought their agricultural requisites, sold their produce, provided machines for common use, and even engaged in production. In the society were to be concentrated in effect the economic forces of the village community. Experience proved that while especially the supply of agricultural requisites may be suitably carried on as a department of the village bank, other co-operative undertakings involving technical skill in their management and considerable capital liabilities are best taken in hand by societies independently constituted." Nicholson in his report on Land and Agricultural Banks speaks of the ability of village banks to act as agents and brokers for their members in the sale of produce and purchase of necessities. The model by-laws of credit societies in India have as their main object the borrowing of funds from members or others to be utilized for loans to members for useful purposes and for their secondary object the following (1) to act as agent for the joint purchase of the agricultural, domestic and other requirements of its members and for the joint sale of their produce; (2) to purchase all implements, machinery or animals for hire to its members; (3) to disseminate the knowledge of the latest improvements in agriculture, handicrafts and weaving, and encourage its members to adopt them; and (4) generally to encourage thrift, self-help and co-operation among the members. But these secondary aims however imposing on paper are not at all attended to by the credit societies. There is no statement of the number of credit societies participating in non-credit work. Regarding the purchase of implements, machinery etc., for the members and the dissemination of knowledge of the latest improvements in agriculture, handicrafts, weaving etc., by the credit societies no information is available from the reports of the co-operative Department. But in the matter of joint purchase and sale, in the year 1937-38, the societies bought on behalf of their members agricultural and other requirements to the value of Rs. 10,434 and sold agricultural produce to the value of Rs. 1,318. When we consider the average buying and selling by the 10,450 credit societies in 1937-38, the figures are ludicrously low being less than a rupee of buying by each society and .13 of a rupee of selling by each society! It almost amounts to saying that the

credit societies did not undertake this kind of business. As regards the encouragement of thrift the following table will throw some light.

		Rs. Lakhs.
Share capital	..	51·46
Deposits from members	..	8·50
Loans and deposits from non-members	..	16·62
Loans from other societies	..	258·48
Loans from Government	..	3·07
Reserve fund	..	77·46
Other funds	..	21·53
Total working capital on 30-6-1938	..	437·12

Deposits of members constitute the real voluntary savings of members. Share capital represents the compulsory savings of members. The average voluntary savings of a member amount to Rs. 1·70, if the share capital also is taken into consideration. The savings amount to Rs. 12 nearly. Considering the starting of the co-operative credit society in the Madras Presidency more than three decades ago, the savings of the members speak very poorly of the capacity of the village credit societies in the matter of encouraging thrift. The conclusion is that though credit societies were allowed to take up non-credit work, they absolutely neglected that side of co-operation. During the examination of some of the co-operative societies in the South Arcot district, the writer found that in all cases the provisions relating to joint purchase and sale and those relating to thrift were actually scored off the bye-laws. The weakness of the co-operative movement and one of the main reasons for the accumulation of overdues is too much concentration on the credit side of the societies. Hence sufficient stress should be laid on the importance of activities other than credit in the village society.

Criticism.

One of the main criticisms against the formation of multi-purpose societies is that the multi-purpose functions that could be taken by the village credit societies were not discharged properly not because of want of power under the by-law but due to want of human material and other factors. "When there is a dearth of men to run simple credit societies, can it be anything more than a pious wish to see comprehensive multi-

purpose societies set up in every village?" The answer to this question is, because of dearth of men to man single credit societies, multi-purpose societies are advocated. The incomes of the present credit societies are very low, nearly Rs. 50 per annum. In some societies there is no income at all. Hence these small societies are very weak and are unable to maintain a paid staff. Most of them depend on the supervisors and bank inspectors to help them in the maintenance of accounts. Too much work cannot be expected of honorary workers. Hence it has been suggested that a well-paid clerk for a group of societies within a reasonable area should be appointed to carry on the routine work. At present there are many educated unemployed in the Presidency and with a little training in co-operative account keeping, these young men will readily take up this work. A multi-purpose society which has a wide area of operation can easily appoint a clerk because the income of that society with its multifarious activities is bound to be substantial. Moreover in a wide area comprising a few villages it is more easy to find honorary workers willing to carry on the work of the society than in a single village. The Deputy Governor of the Reserve Bank of India in a recent statement on the subject remarked "Even those who object to the multi-purpose society are in favour of the Co-operative principle being applied to marketing, purchase etc. They advocate a separate society for each such function. The need for co-ordinating the activities of these societies is recognised but it is thought that this can be done in something like the following manner. Thus, a member who has taken a loan from a credit society would be advised to take his crop to a marketing society which would deduct his dues to the credit society before paying the member for his produce. It would be easy to see how cumbrous and impracticable such co-ordination will be. The most important single cause for the failure of the co-operative movement so far has been the lack of enough good co-operators. When it is difficult to find enough men to run credit societies in villages it would be the height of optimism to expect to find enough men to run a number of co-operative societies. On this ground alone the idea of multi-purpose societies is justified."

Another criticism levelled against multi-purpose societies is that "if the society takes upon itself a multiplicity of functions with financial responsibility for some or all of them, the failure of one line might affect

other lines too".* In the first place the multi-purpose society which is formed will not in the initial stage take up dairying and other co-operative undertakings requiring technical management and considerable capital. Those special functions will be taken only when the society is fully prepared for such technical management. Moreover it is common knowledge that separate accounts should be maintained for separate functions. So there is no question of financial risk happening to the society. As regards the trading activities, the society will purchase all important requisites on indent system for the benefit of members, but will not trade on the society's account. This system is prevalent in Germany. As Catrill says "In most cases, however, the society confines itself to collecting orders from members, transmitting them to central trading society, advising members of the arrival of goods, carrying out the necessary book keeping and recovering the payments from members on receipt of goods".

The introduction of multi-purpose societies in other countries shows that they are not bound to fail. In Japan and France many of the societies took on themselves varied functions and served as multi-purpose societies over a wide area.

Working of a multi-purpose Society.

A description of the detailed working of such a multi-purpose society is given in Bulletin No. 2 of the Reserve Bank of India entitled "The Co-operative Village Bank." A short summary of the scheme of a village Bank with multi-purpose activities with slight modifications in essentials may be given here.

The old idea of one society for a village will not be helpful for the development of the multi-purpose society for reasons given in the previous pages. Societies should be formed on a group basis by comprising villages situated within a convenient distance of a radius of two to four miles. The size and operations of existing societies are too small to run them on business lines by employing the necessary staff and building up sufficient reserves.

The aim of the society should be the enlarging of membership so as to bring every family residing in the area of operations under its

*Mr. K. C. Ramakrishnan—Indian Co-operative Review, January-March, 1938. P. 69.

control. The whole of the village life—not only credit but marketing of crops, supply of necessities on indent system, supply of manure, seed and implements, supply of cheap mechanical and electrical power on collective basis and improving social and religious customs—must be embraced. As the Reserve Bank says, “Every avenue of waste should be checked and production must be developed.” The object of the Bank must be to raise the lowest to the level of the most efficient. Proper control and supervision by the financing banks and the Department and the inculcation of co-operative spirit will prevent big members dominating the societies and appropriating large loans to themselves. The societies should as far as possible try to tap the idle capital of the locality by distributing hundi-boxes to the various families in the villages and explaining to them the importance of thrift. Thrift days should be held once in a month and the members should go from house to house collecting money. Such encouragement of savings will, in the long run, result in the thrifty habit of the members. The village bank should aim at the controlled expenditure of their members through recognised stores. The requirements of the members can be met by the society through these stores thus leaving little chance for members to handle actual cash. This will certainly lessen the chances of loans being misapplied. It is very necessary for the village bank to keep in constant touch with the members so that the latter may feel the existence of the bank. In the formation of the village banks care should be taken that they are not started in all places at once. As the Reserve Bank says, they must not be brought into existence “by mere mechanical means but must develop out of a felt want.” So the first bank that is started as an experiment should be done so carefully in a proper area, for any failure of such banks in the first instance will give a bad reputation to the scheme.

The bigger societies with larger functions of the kind envisaged cannot be worked on the basis of unlimited liability. They must be based on limited liability or guaranteed liability, i.e., provide for a fixed reserve liability for each member. For unlimited liability is based on the fundamental idea of the members of a village society possessing mutual knowledge of each other's affairs and exercising some control over their fellow members both in the matter of borrowing and punctuality of repayment of loans. Village life has now completely changed and the new society operating over a number of villages cannot adopt this form of liability.

When a multi-purpose society is formed in a certain area, it should first fix the amount of credit that could be given to a ryot member by determining his credit-worthiness. The property statement prepared and revised annually is the basis on which it is determined. We found in an earlier section that the property statement usually gives an exaggerated account of the assets of the members because they are prepared by the borrowers themselves. The property statement should be checked often by the financing agency and the correctness of the document established. The 'karnam' or the village clerk should play an important part in the preparation of the document. Having established the assets of the ryot, it will be more difficult to determine his liabilities. Separate enquiries should be made of the ryot, the village officer and the leading men in the villages. If some debt is not revealed by the ryot, it will be known by and by when the society which takes charge of the produce of the ryot regulates his spending and discharges instalments of loans. The agricultural demonstrator and the supervisor should visit the villages where the society operates well in advance of the cultivation season and in consultation with the Panchayatdars and the village officers should determine the amount required for cultivation expenses and the yielding capacity of the land of each member and his domestic expenses. It is on the credit-worthiness and repaying capacity of each member that loans should be distributed by the society. The loans required by all the members should be consolidated by the society and a joint application should be made to a central bank for such funds as could not be provided by the society itself. The central bank should provide the funds on a cash credit basis. Loans will be disbursed to members as and when necessary to carry on their agricultural operation. The grant of loans by Central banks on cash credit basis will avoid undue delay in the disbursement of loans to members. As soon as loans are disbursed to members by the society, the supervisor should visit the society to inspect the proper utilisation of the amount by members. It is common in the villages for members to use loans taken for the ostensible purpose of cultivation to a quite unproductive purpose.

When the harvest is over, the produce should be entrusted to the sale section of the village society and any immediate need for money like domestic expenses or payment of kist should be lent out on the security of the produce. The method of marketing of produce has a great influence on the income of the ryot. The most cheap and easy method of

marketing for small holders is to get their produce sold in the village or a nearby centre to agents or firms or big merchants. The village bank can undertake the selling in bulk and can obtain a better price. For those rich members who can afford to pay rents for godowns, the village banks should provide godowns in marketing centres. In the building of these godowns, Government and the financing banks can help with funds. Goods can be stored in these godowns till better prices are available. Advances can be made to members on the pledge of goods in godowns. When the produce of the ryot is sold, the sale section will first clear the cash credit loan of the ryot in the village bank for the year and then disburse other instalments due from the ryot. The surplus, if any, should be encouraged to be deposited in the village bank. His domestic expenses can be met by the stores to which the society is affiliated and adjustments may be made with the society with the result that he will have no necessity of handling cash.

Better farming alone will increase the income of the ryot and make him creditworthy. The Bank can purchase wholesale from the Agricultural Department chemical manure, better seeds, and farm implements and supply them to members at profitable rates. Among the many activities the bank can take up the important question of consolidation of holdings. Joint farming on a co-operative basis can be tried profitably wherever possible. Subsidiary occupation will go a long way to augment his income. He can pursue profitably those occupations which are closely connected with his avocation. The village bank can provide the ryots with small loans to undertake these occupations and can organize the sale of these articles on a co-operative basis.

The village bank can deal only with short-term and intermediate credit. For liquidation of debts and improvement of land, the help of the land mortgage bank should be sought. The Reserve Bank rightly believes that the former function should be undertaken wherever necessary to make the latter possible. Liquidation of debts of a ryot should be taken up only when the village bank certifies to his credit-worthiness and his habits of thrift and sincerity.

Government Aid.

Measures that should be adopted by the Government to help the village bank in addition to the regulation of moneylending and prohibi-

tion of usury by the Madras Agriculturists' Relief Act of 1938 are as follows: The societies must be given a first charge on the produce raised with the help of the loans advanced, subject to the charge of land revenue. Then only can the co-operative societies hold their position firmly against the onslaught of other creditors, who are naturally more vigilant and more prompt in seizing the produce of the agriculturists for their own dues. In Egypt and the Punjab, the cultivator cannot be sold up entirely for his debts. It is necessary to prohibit attachment and sale by creditors of the agriculturist homestead and a minimum holding should be prescribed by law in all parts of India. A rural insolvency law on the lines suggested by the Royal Commission on Agriculture and the Indian Central Banking Enquiry Committee should be introduced. If the creditors refuse to submit themselves to the conciliation board within a year of the passing of the Debt Conciliation Act, they must be compelled to present their case to a Court for adjudication and if they fail to do so the debts must be deemed to have been discharged.

Finance.

Regarding the financing of the multi-purpose societies it has been suggested by the Revenue Minister of Madras, Mr. Satyanarayan of Alamaru, and the Reserve Bank that small banking unions or societies should be formed. Though the Reserve Bank does not suggest the scrapping of central banks and replacing them by banking unions, the former two suggest such drastic methods. On this question the Deputy Governor of the Reserve Bank said "If the central banks as at present organized are found fit to exercise these functions, well and good. We have nowhere advocated that district central banks should be scrapped and replaced by banking unions. If, on the other hand, it is proved that by its very size and organization, the district bank is incapable of fulfilling these functions, then it will have to be replaced by a banking union. It is far too early to come to any categorical conclusion on this matter." It has been already pointed out that the replacement of the central banks, which are the envy of other provinces, by some other agency will be a step in the wrong direction. The defects in the movement are not at all due to the central banks. The multi-purpose societies can very well be financed by central banks and inspected and supervised by them.

Some promising societies

Already in the Madras Presidency, in G.O. No. 2633, Development, dated 27th November, 1937, Government agreed to the Registrar's sug-

gestion that provision might be made in the bye-laws of select credit societies for better farming, better business and better living and have ordered that the Registrar should see that these objects are always kept in view and worked for by societies. Certain amendments were made to the by-laws of certain societies which are working well.

The first society that was started on the lines of the Reserve Bank of India's scheme of co-operative village bank is the Alamaru Co-operative Rural Bank, Ltd., opened by the Hon'ble Mr. T. Prakasam, Revenue Minister, on the 27th February, 1938. A description of the bank is given in the Administration Report of the Co-operative Department for 1937-38. "The society is on limited liability basis with the ten villages in its area of operations. Its object is to undertake all activities conducive to better farming, better business and better living. During the year the society was engaged in credit activities only. It proposes to undertake non-credit activities also during the current year. Propaganda is carried on in the villages by organizing public lectures to agriculturists. The All India Spinners Association has opened a branch in this society, to supply khaddar to its members. Cloth to the value of Rs. 200 was supplied to members during the year". Co-operators in this province look to this Alamaru Rural Bank managed by a veteran co-operator as a beacon light in the progress of co-operation.

Examination of some of the files in the Co-operative Department on the working of the co-operative societies revealed that some credit societies in Salem, Coimbatore, West Godavari, Cuddappah and Trichinopoly introduced multi-purpose objects in the by-laws and were actually carrying out those objects. Such societies can easily be turned into multi-purpose societies operating on a wider area.

The two important societies in the Salem District descriptions of which are necessary here are the Mallasamudram and Mallur Co-operative societies. About the middle of 1937, the Reserve Bank of India wanted the Registrar of Co-operative societies to send them a description of the best co-operative credit society in the Presidency. The Deputy Registrars of Co-operative societies sent a description of the best societies in their districts and from that list the Reserve Bank arrived at the conclusion that the best society in the Madras Presidency was the Mallasamudram Co-operative credit society.

The Mallasamudram Co-operative credit society:—Started about the end of 1919, the society has now 446 members on rolls with a paid-up

share capital of Rs. 7,452. The society has a maximum borrowing power of Rs. 50,000. The most important feature of this society is that it works purely on the deposits of the members and non-members and gives the lie direct to the feeling that deposits from villagers cannot be used in the transactions of a society. It has an overdraft account with the Salem Co-operative District Bank. The loans outstanding against members amount to Rs. 11,588 under short term and Rs. 38,672 under long term. The overdues of members, Rs. 3,688, is a trifling amount to the business carried on by the society. Even here Rs. 18 only is overdue for more than a year and this amount is covered by decree. This is enough to show that when deposits are raised locally, loans will be granted carefully and recovered punctually. The reserve funds of the society amount to Rs. 7,256 and are invested in the Salem District Urban Bank. The society has taken shares in the Salem District Urban Bank to the value of Rs. 2,200, in the Imperial Bank to the value of Rs. 500 and in the Tiruchengode sale society to the value of Rs. 100. The society gets strains of seeds and other agricultural requirements of members elsewhere and sells them to the members at a cheap rate. It has a sugar cane crusher and four iron ploughs which are given to the members on a monthly rent. It maintains a library and is constructing a godown for stocking the members' produce and a village hall and reading room attached to the godown. The society also conducts a chit fund. There is no delay at all in the granting of loans. The society conducts a ryots' conference when officers of the various departments—Co-operative, Agricultural, Veterinary and Public Health—visit the village.

The members of this society are of opinion that the field of operation of the society may be usefully extended. An increase in its area of operation will not only increase the field of successful co-operation, but also will prove necessary to the society itself. For honorary work is subject to various difficulties and this society has only one clerk on Rs. 12 per mensem and peon Rs. 7. Should a few more surrounding villages be added to it, the society might have enough funds to have a better paid staff.

Mallur Society:—This is one of the oldest and best societies in the Salem union. This society has taken up the work of thrift through the homesafe deposits and it is working very well. To make the hundi-box movement popular and to provide incidentally recreation for the villagers every month on the hundi-box opening day, entertainments in the

shape of gramophones and local music are arranged by the society. From the very introduction of controlled credit the scheme is working very well in this society. This is one of the societies distributing high quality seeds to the members. In 1937, seventy-five bags of good cotton seeds were distributed among the members. A sum of Rs. 375 from the common good fund was spent to deepen a well for public use. The society has planned to build a godown-cum-office-cum-village hall. Planting of trees is encouraged and on the tree-planting day, fifty-four members planted 640 trees. The success of the society is due in a great measure to the enthusiasm of the President.

The Pannimadi co-operative society of Coimbatore started in 1917 was classified as an A class society during the audit in 1936. It had 216 members on rolls, the majority of them being agriculturists. The paid-up share capital of the society amounted to Rs. 7,552 and the reserve fund Rs. 9,193. Loans to the extent of Rs. 21,742 were outstanding at the end of the year out of which Rs. 1,466 was overdue. The loans due to the district bank amounted to Rs. 1,654 on 30th June, 1937. Deposits including homesafe deposits from members and non-members were obtained to the extent of Rs. 12,851. The society distributed foodstuffs and clothes to members on joint purchase. It has an improved variety of plough for the use of agriculturist members and has a correct weighing machine to weigh the produce of members.

The Tittle co-operative society of Tanjore undertook joint purchase of the requirements of the members and joint cultivation of lands and also selected a few families for introducing better living principles.

These are some of the important co-operative credit societies which can at once be developed into multi-purpose societies by extending the area of operation. The good and honest panchayatdars of these societies will be very useful to the villages surrounding the society if the area of operation is extended. The millenium can be achieved only if there is a change in rural leadership. Multi-purpose societies are capable of producing such philanthropic men and men of character. The Royal Commission on Agriculture sounded a true warning when it remarked "If co-operation fails there will fail the best hopes of rural India."

CHAPTER 10.

MARKET FINANCE WITH SPECIAL REFERENCE TO CO-OPERATIVE SALE SOCIETIES

In this chapter the financial difficulties of the agriculturist in marketing his crops and the agency that would provide him credit to market the crops to his best advantage would be discussed.

General Survey

The disabilities under which the Indian agriculturist suffers in the matter of marketing his produce are not a few. The principal crops grown in the Madras Presidency are paddy among the food crops, and groundnut and cotton, among commercial crops. Tobacco, Coffee, Tea and Sugarcane and the growing of fruits are also becoming important. The area of paddy in a normal season has been estimated to be 10,200,160 acres and the area of groundnut and of cotton are 3,075,230 and 2,284,670 acres respectively.*

Tanjore, South Arcot, Nellore, Kistna, Godavari and Guntur are the important areas where paddy is grown on a large scale. There are various kinds of paddy grown. In Tanjore there is the short crop of three months' duration and the long called 'samba' of six months' duration. In the South Arcot there are different kinds of 'samba' and 'kuruvai' paddy. Nellore 'samba' paddy is famous and commands a higher price than most other paddy. The main paddy harvest is from December to February though one or other form of paddy is being harvested from September to March. It will be curious to note that in some dry parts of South Arcot paddy is grown throughout the year—the main source of water supply being rain. It is generally during the main harvest between January and February that the Government's kist and the landlord's rent fall due. Moreover, the crop is grown in most cases out of short-term loans from the local moneylender or a small merchant or

*A note on the Economic Resources of the Province of Madras —L. B. Green—
Director of Industries.

fellow ryot or the co-operative society. As soon as harvest is over, these creditors should be paid. Hence the inability of the farmer to sell as and when he likes. He has to sell earlier than he would like at a time when the market is glutted with the same produce as soon as the harvest is over. The reason is the difficulty of finding proper financing agencies for the marketing of crops and the lack of storage facilities.

In some parts of South Arcot, the grain merchant visits the village and knocks off the paddy at a very low price at the doors of the villager who is not aware of the ruling prices near the village or in the town. In the Kistna District the cultivator himself takes the crop in his cart to the market town and sells it to the merchant for cash on the spot. The anxiety of the villager to return to his village as evening draws near and the expenses that would be incurred by him if he were to stay in the town for a day more force the ryot to sell his produce at a great disadvantage. Sometimes the sale is made through a commission agent, who makes a commission on both sides and a profit on the sale. In places where ryots take advances to grow their crops, the shop-keeper or the moneylender who is the creditor stipulates that the crop should be handed over to the creditor at a rate pre-arranged. Sometimes repayments are made at a pre-arranged rate in kind. The interest in these cases is as high as 50% for only a few months. The result is the villager sows for others to reap. In addition to these, various deductions are made for charges for measuring, for charity etc., not to speak of the illegal weights and measures used.

The trade of paddy is mainly internal and unlike other commodities the number of varieties of paddy is many. Being bulky the problem of transport is an important question in the marketing of paddy. In Nellore where there are the large cultivators, the question of storage is solved by the fact that rice mills in big villages have storage accommodation. So they are able to hold up for a better price.

Of the large commercial crops in this Presidency groundnut comes first. Most of the groundnut grown is exported to foreign countries. The large European exporting firms have their local agents all over the country at the principal groundnut centres during harvest season. While they do not advance towards the growing of groundnut crops, they buy for cash locally. There are no organized markets for this important commercial crop. The ryot themselves bring their produce to the towns in their own carts after decortication by mill or hand or as raw produce,

and sell them to the exporting firms at the price offered by them. As regards prices, a few important European firms who get their private instructions from abroad control prices. The smaller middlemen who buy from the ryots, sell them to bigger merchants who have forward contracts with shipping firms. The forward contracts are generally entered into in July or August for deliveries in November and December. Prices in July and August fall down and they rise up, sometimes even 50% in December with the result that the merchants are hard hit. The exporting firms try to buy up as much as they can at the harvest when there is a rush of groundnuts in the market and a depression in prices in local markets. There is no agency to inform the ryot whether a depression in the prices of groundnut is local or general, nor are there storage facilities afforded to him to enable him to sell at a favourable time. The part played by Co-operative Sale Societies in this connection will be discussed later on. Another factor that contributes to the large divergence between the price paid by the foreign consumers and the money received by the cultivator of groundnuts is the concentration of the produce in a number of local markets before it is concentrated at the port of export.

In South Arcot there is a system of selling groundnuts known as unfixed contracts. The seller takes his produce to the office of the buying firm and receives nearly 80% advance at the day's price. The price will not be fixed. If the price of groundnut goes up, the firm will keep quiet and if it falls the seller will be asked to make good the difference in the advance made. If the seller asks the buying firm to fix the price at a time when the prices increase, the buying firm will evade him by saying that only a limited quantity of bags was asked to be purchased by the foreign importer and so the firm would fix the price for only a portion of the quantity pledged with it. If the price should fall the next day the seller would lose. In Salem there is a time limit of two or three months for the unfixed contract, at the end of which period, the firm demands of the seller to fix the price. If the price is low on that day, the seller stands to lose heavily. The clever agent by his subtle methods keeps the price low. Even before the price of the groundnut is fixed, the produce would have been shipped to the foreign country without the knowledge of the seller. The evil under this unfixed contract is that while the seller should dispose of his produce at a favourable price, the firm that advances money usually does that at a time when the price is favourable to it.

Writing about the exploitation of the ryots by false weights, Mr. Adinarayana Chettiar in his book on the Co-operative Marketing of Agricultural Produce says "In the Vizagapatam District 'garce' is theoretically 13 bags but in actual transactions it is 14 or even 15. In Arkonam Taluk (North Arcot District) I was given instances of groundnut being sold by the ryot at so much per cart-load. In one instance, forty bags were sought to be taken away by the middleman for the price of one 'cart-load'—there being no branch of the S.P.C.A. in that village."

The problem of marketing cotton bristles with the same difficulties as that of groundnut. The principal markets in the Ceded Districts are Adoni, Bellary and Nandyal. In the South, in Coimbatore and Tinnevely, the principal places of market are Tiruppur, Kōlpatti, Sattur, Sivakasi, Virudhunagar and others. In the Circars, the principal areas are Guntur and Kanchigacherala. Except in places like Tiruppur where there are Co-operative Sale Societies operating, the produce is usually sold through the middleman. The middlemen used to purchase on the field itself or the ginning factory owners used to send out their agents to the ryot's villages and buy cotton. Sometimes the ryots take cotton to the weekly markets which are attended by the buyers. Small lots of cotton used to be sold at the local ginning factory for whatever they would fetch. In Adoni loans are granted either by the merchant direct or through the village moneylender but much of lending is from one ryot to another. When the lender was the merchant, the sum lent was on the express understanding that the crop was to be sold to him. In Bellary the 'dallals' or commission agents dominate the market and give considerable advance to cotton growers on condition that the produce should be sold through them. The 'dallals' themselves borrow from the Marwaris at a high rate of interest but occasionally at a lower rate from the Imperial bank. The dallals usually pay the seller less than the current price in addition to the commission they receive both from the buyer and the seller. The rate of interest charged by the dallals is very high. The weights used not only in towns but in villages are notoriously inaccurate. In addition there is the common deduction for charity, weighing charges etc. In Coimbatore ryots sell direct to consumers as well as through commission agents.

Regarding other crops, the marketing of tea, tobacco, coffee and perishables is important. The principal places where tobacco is grown are the districts of Madura, South Arcot, Tanjore, Kistna, Godavari,

some parts of Salem and Coimbatore and Guntur. Tobacco can be sold only after curing. The ryots cure the tobacco and sell it locally as other produce. But in Guntur where the Imperial Tobacco company tried to raise the crop locally but failed, the bulk of the trade is the monopoly of this one firm which handles a major portion of the trade in tobacco both in India and England. This firm advances to ryots for building barns and for purchases of coal stipulating that the tobacco cured in the barns should be sold to it. The tobacco is sorted into four standard grades by the firm. The complaint of the ryots was that they were kept waiting for a long time at the place where tobacco was inspected and in the end the price offered to them might be reasonable or lower than the reasonable rate. As there is no open market for the type of tobacco grown there, and as there are no rivals to the firm operating in Guntur, the price is fixed by the Imperial Tobacco Company which has its own limits of purchase. When that limit is reached, the ryots find it difficult to dispose of their produce profitably. In many cases there are several intermediaries between the ryot and the exporter. European market quotations of prices are not available to the ryots. Moreover the grades of Indian Tobacco are not standardised.

Coffee is confined to Coorg, Nilgiris and Shervaroys. The larger producers are the European planters. A large portion of the crop is exported to London and the planters have to depend on London firms. The industry needs large advances. The big tea estates have their own factories and ship the produce to London themselves or through agents. The small grower of tea has to sell his produce to the factory.

Jaggery is an important article of commerce in Madras, and the Anakapalle co-operative society does good business in it. As the price of jaggery goes up after harvest, it is better to provide storage facilities for jaggery.

In the marketing of perishables, plantains, potatoes, mangoes, betel-leaves and onions are important. The main difficulty in the marketing of these products is their perishable nature and the difficulty of controlling distant markets. The mussalman merchants in Mettupalayam and Nilgiris advance money to the ryots growing potatoes on the condition that the crops should be sold through them. The two problems are the high rate of interest charged by these mussalman moneylenders and the difficulty of storing potatoes without allowing them to perish. The same difficulty of storage presents itself in the case of onions.

Many varieties of cheap fruits like pears grown on the hills of South India do not fetch adequate prices to producers because of want of organisation. Transport charges of these fruits from the hills to the plains are prohibitive. Mangoes which are important are sent in a large quantity to North India. The fruit is packed in baskets and despatched in wagon loads to avoid pilferage. But this method of packing mangoes is not satisfactory. Organisation in marketing of mangoes will result in putting some additional money into the pockets of the poor ryots. In Vellore and Chittoor the prices of mangoes are ridiculously low because of the middlemen who advance small sums to the growers and get the whole produce into their hands. The trade in betel-leaves is a very lucrative one, and the difficulty of getting a reasonable price is the absence of sale depots in distant purchasing centres.

The Middlemen.—From the brief description of the marketing of produce in this Presidency it is evident that the middleman dominates the market. In the existing order of things the middleman has certainly played an essential part in placing the produce before the consumer. But the difficulty arises when there appear far too many middlemen on the scene than are warranted. The middlemen just like the money-lender have wrested all the profits from the ryots. In many cases the middleman or trader lends to the ryot for cultivation purposes with the main aim of getting the business. The result is the ryot is at the mercy of the middlemen to whom he must sell. The rate of interest charged is very high. As Mr. Satyanathan says, "This type of middleman makes a double profit. He profits by lending as well as by buying, if such a term as buying can be used for the coercive methods adopted by this wily class in forcing the needy and ignorant ryot into parting with his produce." Lack of warehousing facilities and cheap credit on the security of produce compel the ryot, soon after the harvest when there is a great demand on his resources, to part with his crops to the middlemen.

In the marketing of commodities like cotton although the seller may be present during the actual sale, he is ignorant of the offers made by the buyer or his agent as the allowance for dirt is usually settled by the agent of the seller. Usually this middleman has a secret understanding with the buyer or his agent and if he gives him a good allowance, he favours him. Thus the interests of the seller are sacrificed by the very person whom he trusts.

In South India it is common for the ryots to meet obstinate 'mandi-owners' who force them to sell the produce to them at ridiculously low prices. Mr. Satyanathan in his report on Agricultural Indebtedness in Madras recounts the following common occurrence—"An officer of the Agricultural Department and some others went incognito to a road, along which the ryots were in the habit of taking their produce from a group of villages to town. They watched near a mandi, as the shop of a certain class of middlemen is known. A cart containing bags of groundnut came by. The middleman and his minions came out of the shop with sticks in their hands. While two or three engaged the driver and his companions in conversation, the others commenced removing the bags of groundnut from the back of the cart. The cartman and his fellows soon spotted this and protested, saying they wished to sell their groundnut in the town. Their protests were in vain. By persuasion and by threats and even by use of force, this middleman and his men, who might as well be called dacoits, forced the poor ryots to sell their produce to them. The price they paid was fixed by them. No protest by the ryots was of avail. So the ryots with a little money in their pockets turned their empty cart and went back to their villages."

The use of false weights and cheating at the time of weighing is common with the middlemen. Buying in the villages some merchants represent that they would buy at current town market rates but they make up for their cost of transport and profits by a clever manipulation of the weights. There are a bewildering variety of weights and measures in the country. The middlemen generally have various sets of measures and have also a proper set of measures and weights for inspection. The tops of the measures alone are stamped by the stamping party and often the middlemen tamper with the bottom of the measure. In the countryside there are very many experienced measurers who even with the correct standard measures are capable of measuring grains either to the advantage of the middlemen or the ryots in spite of the closest watch. These measurers are previously engaged by the middlemen. Various other methods of cheating are employed by the middlemen in the matter of weightment or measurement. During the survey conducted in the South Arcot District I personally came across mandi-owners of groundnut using the balance to their advantage. While they would be pointing to the unsophisticated ryot the needle of the balance they would press with their legs the side where the weights are placed and thus would knock off the produce for a very low price. Mr. Satyanathan estimates

the loss to the agriculturist by false weighment and measurement at from 5 per cent to 30 per cent.

In addition to these illegal deductions, in South Arcot there is the practice known as 'thallupadi,' i.e., knocking off a good quantity at each lot handled.

Adulteration either by damping the produce or mixing the cheaper variety with a superior variety or mixing the produce with some other stuff is mainly resorted to by the middlemen. The Indian Cotton Committee in their investigations found that this was rampant in the ginning factories. This undoubtedly brings down the value of our commercial crops in foreign markets and it will ultimately affect the poor ryot.

The abuses which have crept into this system of marketing where the middleman plays an important part are so great and injurious that they should be eliminated. As the middleman should perforce continue before any other suitable system is evolved, attempts should be made to replace him by a controlled and organized market. That can be achieved by the Co-operative sale societies as will be described presently.

Lack of Transport Facilities.—One of the essential functions of marketing is efficient transport of commodities from the village areas to the railway station and from there to the terminal point. Any credit facilities for marketing without an efficient system of transport will be of no avail. For instance, the Central Banking Enquiry Committee in referring to the bad system of transport in India, observe. "At the time of our report the freight per maund of wheat from Australia to Calcutta is six annas while the railway freight from Lyallpur to Calcutta is Rs. 1-3-3."

Although the road system in India is improving rapidly, village roads are in a very bad state. During the survey conducted in the South Arcot District, I had an opportunity of visiting some of the remote interior villages. There are practically no roads connecting the villages to the marketing centre. During summer the country carts run across the fields and during the rainy season the villages are practically isolated from the towns. Usually the country carts cross the rivers during the summer but when the rivers are in floods there are no means of crossing them. The up-keep of these roads is the function of the district boards; and the condition of the roads in the South Arcot District is the worst

in the Madras Presidency. Of course some villages are connected to the main roads by metalled roads but such roads are not many. "The total mileage of roads in India is 201,000 miles of which 31% is metalled and 69% unmetalled. Compared to the United States of America, per 100,000 population India has 23 miles of surfaced roads as against 383 miles of U.S.A. and the corresponding figures for unsurfaced roads are 55 and 2167 miles. With same territory as New Zeland and 10 times her population the Central Provinces has one-seventh of her surfaced road mileage,"* Moreover, the roads in the Madras Presidency are very unevenly distributed and in many cases communications—road and rail—are duplicated with the result that there is competition. The following table will give an idea of the lack of distribution of roads.**

Number of villages with a population of 1000 and over not on the public road—

North Arcot	..	309
Kistna	..	185
West Godavari	..	213
Guntur	..	417
Coimbatore	..	230

One of the main features of the increased cost of road transportation is the increase of the rate of freight with the distance, seasonal changes, nature of the road and time taken to load and unload goods by the cartman. The following table will give some idea of the Cost.*

Madras Presidency (Madura)

Distance	Charges Rs.	Commodity	Condition of the road
10 Miles	0-4-0 per cart	Paddy	Metalled
6 Miles	2-0-0 for 6 Bags	Cotton	do.
<i>Bellary</i>			
9 Miles	2-4-0 for 6 Bags	do.	do.

*Agricultural Marketing in India—B. B. Mukerjee.

**Ibid.

*Ibid.

It must be noted that the cost of transport is higher on unmetalled than on metalled roads. Moreover, it increases the depreciation charges of the carts and bullocks. The Indian Road Development Committee and the Royal Commission on Agriculture emphasised the need for better communications for marketing agricultural produce. The former committee said "good communication in any area will bring new crops within the range of profitable cultivation." The latter remarked "defective communications between the point of production and the local market hinder the movement of goods and make primary marketing costly, the additional charge ordinarily falling upon the shoulders of cultivators." As the Madras Provincial Banking Committee says, much is spent on the maintenance of through trunk roads (e.g., the trunk road from Madras to Chittoor), but for trade purposes it is essential that railway feeder roads should also be sufficiently numerous and in good order. Though at present motor transport is not cheaper than country carts, it is anyhow quicker and much safer than the slow country carts. Hence the development of feeder roads will place a cheaper system of vans and lorries at the disposal of the ryots.

Railway transport is also important for the internal and external trade of India. The principal railways of the Presidency are the Madras and the Southern Mahratta Railway and the South Indian Railway. The M. & S. M. Railway cuts through the deltas of the Pennar, Kistna and Godavari with branches to the ports of Masulipatam, Cocanada and Vizagapatam. Another line of this Railway that goes north-west crosses the cotton areas of Bellary and Kurnool. In the South, the South Indian Railway connects Chingleput, the groundnut areas of South Arcot, Tanjore, Trichinopoly and Madura with Ceylon. North Arcot and Chittoor Districts, Malabar and the groundnut and cotton areas of Salem and Coimbatore are tapped by this Railway. Many big stations on these railways have covered goods sheds and the carts can go close to the goods sheds. Very often in small stations either due to the small sheds or lack of sheds, vegetables, baskets of fruits, cotton and rice are heaped up on the open platform. The marketing of fruits is very much limited by the facilities which the railways offer. With greater facilities, fruits like mangoes and plantains and betel leaves can be carried to long distances. Moreover, the diversity of gauges not only in Madras but in the whole of India causes delay as the goods are to be transhipped often. Regarding the question of freight it is said that in India railway trans-

port costs 50% more on wheat than in the U.S.A. While it costs Rs. 7·5 to move one ton of wheat for 200 miles in U.S.A., on the M.S.M. and the G.I.P. Railways, the charge amounts to Rs. 10·3 and Rs. 11 respectively. Of course the export of rice to Ceylon gets some concession in the South Indian Railway, but those concessions are not very helpful. The Royal Commission on Agriculture rightly remarked that "freight rates are ordinarily the heaviest single addition to the prime cost of produce exported by rail from the area of production. In a competitive market, they amount to a heavy charge on the gross price ultimately paid for the produce, and to the cultivator who is selling his commodity at a distance, they amount to a substantial portion of the price he realises at the place of sale." Hence in the organization of marketing the prime necessity is a suitable, cheap freight rate for the various commodities.

The canals in Madras are also useful means of transport. The Buckingham canal connects Madras with the Kistna delta and runs 60 miles south of Madras. Firewood, paddy, shells and salt are some of the important commodities brought to Madras by this canal. The Northern Districts of Godavari and Kistna are connected with a net-work of canals and they are navigable though not all the year round. Vast amount of paddy is taken to the markets and ports and rail centres. For instance the canal Yeluru, a branch of Godavari touches many villages and market centres in the District of Godavari. There is great scope for the development of waterways in this Presidency.

Finance.—The method of financing the villager to market his crops has already been described. The middlemen, the merchants, the money-lenders and the indigenous bankers undertake to finance the ryot with the result that the ryot's margin of profits has dwindled very much. The defects of this system of financing have been described in the previous pages. The system of advances on crops with high rates of interest and the condition imposed upon the ryot to sell his crops at a disadvantage to his creditor are the most serious defects in marketing. The petty village dealers obtain credit mostly from town merchants, shroffs and commission agents who charge high rates of interest. The resources of the middlemen are supplemented by short-term credit from Joint stock banks which discount hundis and bills. The indigenous bankers and moneylenders lend money either by discounting hundis or on pronotes on personal credit. A detailed description of transaction in hundis has already been given in the chapter on Indigenous Banking. The

hundis of indigenous bankers can be discounted with the Imperial Bank of India, which also grants loans on produce in places where they have branches. A great deal of the produce loans is in the hands of the Imperial Bank of India while the indigenous bankers do not lend much in this direction since the rate of interest charged by the Imperial Bank is much lower than that of the indigenous bankers. While the Imperial Bank grants loans and cash credits to merchants two signatures to pronotes are required.

The financing of the movement of paddy when it reaches the merchant is done by the Imperial Bank which grants short-term loans on rice and paddy in godowns and the indigenous bankers who facilitate remittances by the grant of hundis and lend on personal credit. There is a large coastwise seaborne trade in paddy. The millowners or the small merchants, after shipping the goods, draw hundis or bills of exchange on the consignee, which after being accepted are discounted by local banks. The shipping documents are sent to the banks at the port of consignment for delivery to the consignee on payment. Trade in paddy is not organized or controlled because of the various strains of grains, lack of storage facilities and defective weights and measures. "There is only a medley of merchants, big and little, each trading on his own personal credit, borrowing from Marwaris, Multanese and moneylenders on pronotes or on produce or jewels or from the big exporting firms and generally at rates which constitute a heavy tax on trade. A curious further practice is followed by some of the Marwari bankers who lend to small merchants and collect not only interest but also commission at three to six pies per bag on all goods purchased by that merchant with the loans so taken."*

In the marketing of groundnut, as we have already described, the grower takes his produce in his own cart and sells it at the mandi for cash or to the agent of the merchant who tours the village as soon as the harvest is over. In moving the produce to the ports the merchants sometimes despatch it to ports direct to exporters and payments are made to them by hundis on sale to exporters or they may obtain accommodation from the local bankers who will lend on personal credit covered by a hundi which will be sent to the port for collection on the sale of

* The Madras Banking Enquiry Committee Report, p. 122.

the goods. The exporting agents may themselves buy direct from the ryots, and they obtain funds from the branches of the Imperial Bank of India by arrangement on the security of their own funds or in some cases by sending the money direct by insured post. When the goods are purchased they are put in godowns and funds are raised to make further purchases. The exporting firms on shipping the commodity get advances from foreign exchange banks on the strength of the shipping documents, or if their credit is sound on clean bills. The large exporting firms like Ralli Brothers and the Japanese firms by their own organisation try to eliminate the middlemen by supplying short-term finance for the movement of produce. The system of unfixed contract under which temporary accommodation is provided to the seller has been described in the foregoing pages.

In the marketing of cotton the crop passes from the ryot to the merchant who advances him for domestic and agricultural expenses; or the ryot takes it to the market and sells it to the merchant through the commission agent who may hold the produce in the godown giving an advance to the ryot. If the merchant despatches the cotton to Bombay or other market, payment is made by the drawing of hundi which is collected by the local banker's agent at the place of the sale. When the cotton is not immediately exported a produce loan may be taken on it from the Imperial Bank or other banks.

Co-operative Marketing.—Co-operative marketing of produce is of late becoming very popular in the Madras Presidency though it has not developed much. In the West, Co-operative marketing has been a considerable success and the line of improvement can be adopted in India to prevent the various evils of marketing.

Foreign Countries.—It has been found that in the United States of America about 23% of the total farm-produce is marketed through co-operative organizations. The system of co-operative marketing is of three distinct classes—(1) the Federated Association with groups of marketing organisations as members (2) the Centralised Association having no intermediate link between it and the growers; and (3) the Federated Exchange which is a selling agency formed by local associations. The Federated type is well illustrated by the California Fruit Growers' Exchange formed in the year 1905. The growers first organis-

ed into local associations which were grouped into District Exchanges and they in their turn formed the Central Exchange. As Mears and Tobriner say "the grower picks, the local association packs, the District Exchange bills and the Central Exchange sells the fruit."* As opposed to this is the centralised association of the California Prune and Apricot Growers' Association in which the growers have direct contact with the Association. The members enter into a contract with the associations to supply them with a stipulated quantity of produce and this ensures the associations a definite supply for Co-operative marketing. There are two types of contracts—(1) the Agency contract by which the Co-operative Association is merely an agent of the grower who is the owner of the produce; (2) the more popular type is the sale and resale contract by which the title of goods passes to the association which guarantees a good share to the grower. In the marketing of grain there are the co-operative grain elevators at different centres where cash payment is made to growers on delivery instead of after sale. In the matter of marketing of cotton the Oklahoma Cotton Growers' Association started in 1920 had no share capital but only enlisted members for the securing of their produce under a seven years' contract. A separate association organised on a share basis arranged for the warehousing of the member's cotton. The State Associations have been grouped into the American Cotton Growers' Exchange.

The co-operative banks have been financed by the state. When the Agricultural Credits Act was passed in 1923, the federal intermediate credit banks were authorised to advance to co-operative marketing associations on the security of warehouse receipts, bills of lading etc., up-to 75% of the value of the produce. Under the Agricultural Marketing Act of 1929 the Federal Farm Board was created to cater to the needs of co-operative associations. With the establishment of the Farm Credit Administration, the Federal Farm Board was dissolved and the former was entrusted with the task of providing credit for Cooperative Associations. Under the Farm Credit Administration a central bank and twelve regional banks have been set up to advance loans to co-operative associations both long-term and short-term. In addition to providing finance the Farm Credit Administration placed financial and business experts at the disposal of co-operative associations to help them in the

*Principles and Practice of Co-operative Marketing-Mears and Tobriner.

management and organization problems and to develop sound financial policies. The first Report of the Farm Credit Administration rightly remarks "This work is closely related to the credit functions of the banks, since such service makes borrowing co-operatives a better credit risk, and assistance to new and non-borrowing associations is a factor in determining the ultimate success of the whole co-operative movement." This reveals the determination of the Government to see that co-operative associations of farmers are successful. In India where the farmer has not developed to the same extent as his brother in America the need is greater for government control and supervision of co-operative associations. Marketing requires great business tact and it is absolutely necessary for the co-operative sale societies to be guided by experts either from the Reserve Bank or from the Government. If the Reserve Bank takes up this task it can easily develop a first class agricultural paper.

Though Australia prefers the technique of state control to that of cooperation in the marketing of her produce especially wool, wheat, butter, meat and fruits, there are some lessons to be learnt from the co-operative marketing in West Australia. Co-operatively organised primary producers in Australia are represented in London by the Overseas Farmers' Cooperative Federations Ltd., the shareholders of which Association are the Australian Producers' Wholesale Co-operative Federation and the Federated Farmers Co-operative Association of South Africa. The Federation allocates shipments to selected centres and makes delivery to selected salesmen at the points of sale. "The Federation has no monopoly of cooperative business, but it claims to handle about 60 per cent of the wheat, 30 per cent of the butter, 60 per cent of the dried fruits and 20 per cent of the green fruits coming from co-operative organizations in Australia. Its turnover from all sources was £ 85.6 millions for the fifteen years 1920-35 and the year ending March 1935, £ 6.6 millions."*

Except in West Australia, in other states it is difficult to distinguish state marketing schemes from co-operative organizations. The majority of butter in Australia is produced co-operatively and there are regional organizations for the marketing of eggs, fruit and other products. The Westralian Farmers Ltd., started in 1914 deals in the supply of agricul-

*C. R. Fay—Co-operation at Home and Abroad.

tural requirements and the marketing of wool, livestock, skins, fruits and other produce. The other co-operative bodies in the State are off-shoots of it. By the supply of warehousing facilities and direct sale system by the Westralian Farmers the voluntary Wheat Pool was kept in tact. It is interesting to note that these two associations along with certain other states have a co-operative selling agency on the London Market and with South Australia Farmers' Co-operative Union, own the shipping organisation "Australian Cutturns Ltd." Again the Westralian farmers market the dairy produce in conjunction with the co-operative dairy farmers who control the manufacture. This co-operative association with the Producers' Markets Co-operative Ltd. handle fruits, vegetables, poultry and eggs. In India when sale societies develop on a large scale the Australian method of federation can be usefully adopted.

In Canada the Wheat Pool was started as a war measure and the Wheat Board was given a complete monopoly of the marketable crop with sole powers to arrange for its distribution. The Pool was very successful and hence even after the discontinuance of compulsion there was a demand for its continuance on voluntary lines. Vast acres of land were secured by it under contract and elevators and other handling facilities were being acquired by it gradually. It has representatives in all leading countries and 75% of the wheat handled is exported direct. A contract for five years is entered into with the members and the members receive a part price on delivery and the balance on sale of the produce. The Pool sold through a Central Selling Agency styled Canadian Co-operative Wheat Producers and paid to all its members the average price received for the commodity, grade for grade over the marketing period. The greatest change which pooling brought to the farmer was that it relieved him of the difficult task of deciding when to sell. The Pool sold the grain as evenly as possible throughout the year. When standardisation of products is attained in India it is desirable to adopt the method of the Canadian Wheat Pool in marketing important crops.

In the matter of co-operative Marketing in Europe, pride of place should be given to Denmark which, after reorganising her agricultural economy, on a co-operative basis, has built up her marketing organisation with state aid. The strength of Denmark lies in the marketing of dairy produce and the economically allied bacon and eggs, such organi-

sation being buttressed with very efficient societies for the supply of agricultural requirements, with consumers' stores, insurance, stock-breeding, milk control and testing societies. The high degree of specialization,—societies confining themselves to a single function and handling a single commodity,—characterises the Danish movement. Primary societies are grouped into the Commodity Associations which are in turn federated into the Central Co-operative Council. The Commodity Associations have no share capital but are on the principle of unlimited liability and are able to borrow capital from the banks on their unlimited liability. The stability of the associations is assured by the members entering into a contract for marketing their entire produce through the associations for a long period. The produce is pooled before marketing. In 1937 there were in Denmark "1362 Co-operative dairies and sixty-two Co-operative bacon factories receiving over four-fifths of the milk and bacon pigs of Denmark."

In Germany primary credit banks in villages undertake the selling of grain while a group of banks in the country pool their commodities and start grain elevators. Specialised regional marketing societies on commercial lines are developing. The state has stepped in and has made the societies handling different commodities like wheat, dairy produce, fruit and vegetables, part of a state-marketing scheme. The dairy societies have been rapidly increasing and, under the State milk regulation scheme, are becoming a form of marketing monopoly for milk and its products.

India,—Bombay and the Punjab.—In India not much headway is made in the sphere of co-operative marketing. Before discussing in detail the sale societies in Madras, the Co-operative marketing of Cotton in Bombay and the commission shops of Punjab may be briefly described here. The cotton sale society at Hubli, started as a seed store to push on the cultivation of improved varieties, was assisted by the Department of Agriculture in the proper gradation of raw cotton. As the grower takes the cotton to the society, sample is taken and it is weighed and receipt issued. Superior quality cotton is sold by auction, and inferior quality by private transaction. The society grants an advance not exceeding 60% on the cotton deposited in its godown. The Gaday Sale Society started in 1917 has a number of rural credit societies affiliated to it, and these societies grant short-term loans to their members on con-

dition of marketing their crop through the sale society which in its turn gives an advance on the security of the produce deposited in its godown upto 75% of the market value. Sales during the season are by fortnightly auction. Prices are received telegraphically and on the radio. The Dharwar Central Bank has given a cash-credit accommodation to the society upto a lakh and quarter of rupees and the rate of interest charged is 6¼%. Besides in the off-season the society uses its share capital in advancing selected seeds to cultivators. Grading is done by the officers of the agricultural Department. The society also deals in groundnuts, wheat, javari etc. The Sonsek Sale Society of Surat has its cotton ginned at the Purushottam Co-operative Ginning Factory started by it, at a lower cost with improved quality of ginning. Cotton is graded and the cotton of different members belonging to the same quality is pooled and sold as a lot to buyers. A sales union has been started in Surat with the Cotton Sale Societies and ginning factories as members. The Union organises new sale societies, arranges for better type of seeds, looks after the grading of cotton and above all markets the pooled cotton. The Union by collective bargaining is able to get good prices and sell to the best advantage.

The objective of the co-operative commission shops in the Punjab is the purchase and sale on commission of the seed and other requirements of members, sale on commission of agricultural produce of the members and the promotion of the use of improved varieties of seeds. Membership is drawn both from individuals and co-operative societies. Advance is given to members up to 75% of the estimated market value on delivery of the produce and the balance shall be cleared on the sale of the produce. It is incumbent on the members to deliver for sale the whole of the produce to the shop but the loyalty of the members is at a discount. Though the shop has enabled the cultivator to market his produce instead of depending on the village dealers, it does not put itself in touch with exporters but sells only to local merchants. The reason is the absence of pooling or grading of the produce of the members.

Loan and Sale Societies of Madras

The loan and sale societies are of comparatively recent growth in the Madras Presidency and considering their recent origin some of the societies—e.g. cotton and paddy—have developed satisfactorily. While

there were only thirty-eight loan and sale societies in 1927, the number has increased to 118 in 1938. The number of individual members is 17,276 and societies 1660 and their paid-up share capital amounted to Rs. 1·84 lakhs. Between 1937-38 the loans advanced to members are Rs. 62·12 lakhs as against 26·16 lakhs in 1936-37. But the loan and sale societies have confined themselves mostly to the issue of loans on the pledge of produce and have not developed marketing seriously. In the opinion of the district officers of the Co-operative Department the factors which retard the progress of co-operative marketing are as follows:—

- “ (1) Lack of quick transport facilities and good rural communications to ensure the movement of crops from villages to marketing centres ;
- (2) the influence of middlemen (merchants) with the ryots on account of the advances they make to them and the consequent obligation of the producers to dispose of their produce to them ;
- (3) want of adequate storage facilities in certain areas and the difficulties felt by sale societies in owning granaries or godowns ;
- (4) lack of facilities for or difficulties involved in pooling, grading etc., of the different varieties of crops raised (e.g. paddy) ;
- (5) lack of propaganda and the consequent ignorance of the ryots about the existence of sale societies, their objects and usefulness to them, their methods of work etc. ;
- (6) a general lack of business talent in the personnel of the committees of management of sale societies or lack of businessmen even among the paid employees of the sale societies (whom, by the way, the societies cannot afford to employ in many cases owing to the inadequacy of their financial resources) ;
- (7) want of loyalty on the part of the members of sale societies to sell their produce to the society for one reason or another (in some cases, it is stated, due to the absence of any

marked difference between the village and market prices, or doubtful increase in prices of such produce as paddy, by holding it up) ;

- (8) location of headquarters of sale societies in places other than marketing centres ;
- (9) dependence of sale societies practically on the local markets owing to the smallness of their transactions, which does not permit of their undertaking real marketing ;
- (10) difficulties felt by the societies in competing with long-established exporting firms which have practically a monopoly of the market particularly in commercial produce ;
- (11) lack of direct contact between sale societies and big consuming centres and of knowledge of internal and external markets."

Hence the working of some of the representative sale societies may be examined.

The Tiruppur Cotton Sale Society.—Possibly the biggest society in the Presidency, it is situated in the important cotton market of the Coimbatore District. The area of operations is the Coimbatore District. Originally started as an agriculturists' supply society it gradually undertook the introduction of Cambodia 2 cotton and the marketing of members' produce. Its members are both individuals and village credit societies numbering nearly 70. Crop loans are supplied by the village societies on condition that the borrowing ryots bring to the sale societies a stipulated amount of cotton. Recently an auxiliary organization of the sale society called the Cotton Growers' Society which gives short-term loans to individual members of the village credit societies are usually on the basis of unlimited liability. The Sale Society does not undertake to gin cotton and sell it as lint. It has a manager experienced in cotton trade and an agricultural officer to look after the agricultural side of its business. The total quantity of produce handled by the society in 1934 is as follows* :—

*T. Adinarayana Chetty—Co-operative Marketing of Agricultural Produce in South India.

Karunganni cotton	..	164 pothis
Cambodia	..	1502 „
Lint from non-seed farm	..	175 candies 248 lbs.
Karunganni	..	96 candies 96 lbs.
and seed farm	..	483 candies 334 lbs.
Ragi	..	484 bags
Coriander	..	237 bags
Chillies	..	201 bags

The society is allowed a cash-credit by the Coimbatore Central Bank but it has few occasions to use it as it is able to attract deposits at a lower rate of interest. The society agreed to sell 'kappas' only to three dealers and such a limitation of market obviously tempts buyers to combine. It also employs a broker as an intermediary in selling and thus defeats the object of eliminating middlemen.

The society has undertaken to work the seed multiplication scheme for the expansion of Cambodia 2 cotton area in this Presidency and thus to facilitate pooling and grading. The scheme was worked from 1932 to 1937. Six agricultural demonstrators and a business manager were in charge of the scheme and the cost was met partly by Government and partly by the Indian Central Cotton Committee. Each society through which the seed was supplied to the members should be a member of the sale society and loans for cultivation expenses were given by the societies. Every member was expected to take his produce to the sale society. The ryots were expected to bring their kapas at the ginning factory selected by the society and they might either sell the kapas to the dealers selected by the society or gin the produce and stock the lint in the godown and sell the seeds to the society. The dealers who purchased the seed from kappas should get them ginned at the society's factory and sell the seeds to the society if necessary. The Indian Central Cotton Committee ceased to finance the scheme in 1937 and the society is carrying on the work with the help of the Agricultural Department, the Co-operative Department and District Urban Bank. This scheme is expected to introduce an improved strain of seeds in the area and this will help in grading and pooling the produce for marketing.

Koilpatti Co-operative Society Ltd.

Started in 1926 the area of operations of this society is Koilpatti, Tinnevely, Sankarankoil and Srivaikuntam Taluks of Tinnevely District and Sattur, Srivilliputhur, Aruppukkottai Taluks of Ramnad. The number of members according to the Departmental inspection report of January 1939 was 39 societies and 638 individuals, including 39 ryot merchants. The authorized share capital is Rs. 1 lakh made up of shares of Rs. 5 each. The aggregate indebtedness of the society shall not exceed 70% of the value of the produce pledged to, and in the custody of, the society or the amount of loan given to members on the security of such produce, whichever is less. The Central Bank allowed a cash-credit of Rs. 1,25,000 to the society under open loan system.

The Society undertakes to advance loans up to 70% on the pledge of the produce and sells them at a favourable market. The rate of interest on loans to members is 5½% while the rate charged by the Central Bank is 4%. The commission charged on sale of produce is 12 annas per cent and the insurance charges on sales are at 0-1-3 per month for every Rs. 100. The society owns a godown built with the help of a loan from Government and from the free grant from the District Economic Council and another on a leasehold land in a local ginning factory. No rent is charged for storing in godowns if the produce is sold within four months. If the period of storage is exceeded, the rate charged is 0-0-6 per borah for the first four months and 0-1-0 for the remaining period. Out of the seven directors of the society five are merchants and the Department is keeping a careful watch on the sales of the society to detect any misusing of powers by the directors. This feature of domination of merchants in the management of the society detracts from the otherwise efficient working of the society.

Controlled credit scheme has been introduced in ten societies within the area of operations of the Sales Society. A sum of Rs. 10,525 has been disbursed as loans to members. The area brought under the scheme is 1040 acres and 1050 'pothis' of cotton kappas to an estimated value of Rs. 15,750 is expected to be handled.

The produce transactions between 1-4-38 and 51-1-39 are as follows:—

		Kappas		Lint		Cotton seeds		Value Rs.
		Pothi	Thulam	Candies	lbs.	Pothi	Thulam	
Opening balance on								
1-4-38	..	37	6	358	9	—	—	70980
Received during the								
period	..	3774	5	970	558	787	8	151352
Released and sold								
during the period	..	3811	11	1037	17	787	8	173360
Balance as on..								
31-3-39	..	nil		291	550		nil	49589

It is estimated that the society is responsible for marketing of about 25 per cent of cotton arriving at the local market. A statement of the progress of the society from 1933-34 is given in Table 56, Appendix II.

Tapeswaram Crop Loan and Sale Society:—The Society was started in March 1935 and operates in 34 villages within an area of ten miles from Tapeswaram. The objects of the Society are (1) to advance loans to members on the security of their produce (2) to arrange sale of produce of the members to the best advantage (3) to rent or own godown to facilitate the grant of loans to members and sale of their produce and (4) to act as agent of those members which are affiliated societies in the matter of receiving for safe custody in the godowns or elsewhere the produce pledged to such societies by their individual members. The members of the Society consist of ten societies and 204 individuals.

The commodities dealt in by the society are paddy, jaggery and pulses (green gram, black gram and red gram, horse gram, gingeli etc.). Loans are given up to 75% of the market value of paddy, 60% of that of jaggery and 60% of that of pulses. The following statement will give the nature of business done:—

	Paddy	Jaggery
Nature of produce pledged as on 30-6-38		
Quantity	.. 33454 bags	1276 baskets
Value	.. Rs. 1,25,534	Rs. 4,016
Amount of loans	.. Rs. 88,674	Rs. 2,280
Loans disbursed from 1-7-1938 to 8-1-1939		
Quantity	.. 10173 bags	
Value	.. Rs. 40,589	
Amount disbursed	.. Rs. 29,616	
Loans realised from 1-7-1938 to 8-1-1939		
Quantity	.. 31240 bags	1276 baskets
Value	.. Rs. 1,19,429	Rs. 4,012
Amount	.. Rs. 82,669	Rs. 2,280
Outstanding on 8-1-1939		
Quantity	.. 12387 bags	
Value	.. Rs. 46,694	
Amount	.. Rs. 35,527	

The society issued loans on the pledge of produce stocked in the godowns either owned by the members or rented, under the lock and seal of the society. The pledged stock is duly insured against fire, the policies standing in the name of the society. The society has recently constructed a jaggery godown with state aid.

The loanable fund of the society consists of loans from the Ramachandrapuram Central Bank for Rs. 29,722 and cash-credit from the same Central Bank up to Rs. 10,000. The rate of interest charged on borrowing is 4%. The amount disbursed to members between 1-7-1938 and 8-1-1939 is Rs. 29,616 at 5½% rate of interest.

The affairs of the society are managed by a Board of Directors. An executive committee of three members including the President and the

Secretary generally scrutinise all the loan applications and decide to advance loans. Marketing of produce commenced from October 1938 and from 12-10-1938 to 8-1-1939 the position was as follows:—

Name of the Produce	Quantity	Sale price on the date of sale	Value as on date of loan
		Rs.	Rs.
Paddy ..	1664 bags	7195-8-0	66077
Jaggery ..	839 baskets	3539-9-0	25177

The marketing of the members' produce is not done to any appreciable extent when compared with the quantity of produce released in the same period. Even the produce so far marketed by the society seems to have been done to the local merchants. Effort should be made in this direction on a more satisfactory basis.

The Nellore Paddy Sale Society.—This is the first attempt made for marketing of paddy in the Province. The area of operations comprises the whole district and the objects are to advance loans to members on security of produce, to sell members' paddy to the best advantage, to act as agents of member societies and to prevent adulteration. The membership of the society includes 21 agricultural societies and 89 individuals. The sale society has made a special arrangement with a private rice mill to get its paddy milled at a lower cost than the market rate. The Society pays the ryot an advance up to 60% of the market value of paddy deposited and supervises its milling and arranges for the sale, making a commission of 12 annas per putti. Though the business is well managed the turnover of business is not great because of the absence of loyalty on the part of co-operative stores which are lured away by the slightly lower prices offered by the merchants. The merchant is able to undersell the society by adulterating the famous Nellore 'Molaguru-kulu' rice with inferior varieties. If some arrangement can be made with the Triplicane co-operative stores and other stores for taking the produce of the society, it can have a stall at Madras with the reduced freight offered by the M. & S. M. Ry. Propaganda work may be undertaken by supervisors if a subsidy is given by the Provincial Bank.

Godowns in groups of villages may be recognised and loans issued as in the case of Chidambaram Paddy Sales Society.

Chidambaram Paddy Sales Society.—Though the Society has not developed the marketing side of paddy there are certain admirable features of this society which can be profitably followed by other sale societies dealing in paddy or other grains.

Started in 1936 the area of operation of the Society is the Chidambaram Taluk and the number of members is 717. Unlike most other co-operative sale societies in the Province dealing in paddy which were unsuccessful owing to heavy incidental charges for the borrowers to cart the paddy to the society, to provide gunny bags and to pay godown charges, etc., besides the interest charged on loans, the Chidambaram Sale Society has minimised cartage and dispensed with other charges by establishing branches in various big villages to which the borrowing ryot has to deliver the paddy. Paddy is stored at these centres of the society in mud granaries called 'ser' so common in village parts. Each centre is placed in charge of a responsible Committee of three to five members residing in the area and they execute an indemnity bond to the society in respect of security. A common watch is provided at a cheap cost. The success of the scheme can be gauged when we consider the progress of the sale society. The number of centres in 1937 was 21 and the amount lent out to members was Rs. 34,893 of which Rs. 33,049 was recovered leaving a balance of Rs. 1,849 on unsold paddy. In 1938 and 1939 the numbers of centres increased to 32 and 39 respectively and the amount lent out and recovered were 74,048 and 73,106 and 1,57,746 and 1,55,365 respectively. The loans taken from the Central Bank for the three years are Rs. 33,987, Rs. 52,535 and Rs. 1,27,996 and the rate of interest charged during the three years went down gradually from 5% in 1937 to 4½% and 4% in 1938 and 3% in 1939. The rate of interest charged to members correspondingly went down from 6% in 1937 to 5% in 1939. The gain to the members by pledging the produce to the society and selling it at favourable time is remarkable. In 1939 when paddy was pledged to the society the price was Rs. 1-12-0 per 'kalam'. When the loan was discharged by the members the price of paddy ranged from Rs. 1-15-6 to Rs. 2-3-6. The value of paddy estimated on the day of the pledge in 1939 was Rs. 1,89,580 and its value when the loan was disposed of was Rs. 2,31,811. The aggregate profit to members is Rs. 42,231.

The net gain of the agriculturist after deducting the interest on loan, insurance charges etc., is Rs. 20,264.

The one chief defect of the society is that it does not combine marketing with credit to a great extent. The paddy pledged in the various centres is sold by the ryots themselves at what they consider favourable time for selling. The society does very little in finding the buyer to the ryot. The reason is the lack of storage facilities in the town and the difficulty in handling a heavy commodity like paddy. Moreover, the society has not attempted to supply to members improved grains of a few variety and this stands in the way of pooling and grading the produce. Anyhow attempts are being made to sell the whole produce of the members through the society. The sale of the produce will be from the town where warehousing facilities will be offered to members who will have to bring their own produce from the various centres in the carts of the Sale Society. Gunny bags and other requisites will be supplied by the society. Sealed tenders will be issued and the produce will be sold by auction to the highest bidder on the particular date. If the price does not suit the ryot he may hold the produce in the godown for a longer time. The godown rent and the commission on sale will be very moderate. If this scheme is put into operation it is expected that most of the members will sell through the society. Already funds are being collected for erection of a godown.

It is necessary that the society should launch on a system of controlled credit described under the chapter on co-operation. Already loans are being issued by the society on standing crops.

The success of the society is mainly due to the educated and enlightened office-bearers of the society. Dr. B. V. Narayanaswamy Naidu, Professor of Economics, Annamalai University, is the President of the Society and the Secretary and some of the members of the Board of Directors are either lawyers or engineers or enlightened mirasdars. Much depends on the directorate for the proper working of a society.

Suggestions.

The various defects in the working of the sale societies have been analysed. Some of the suggestions for the proper working of sale societies may be given here. The area of operations of the sale societies varies with the kind of produce dealt in and with reference to local

conditions. The area of a paddy sale society is generally a taluk with branches in the firkas while in the case of groundnut and cotton the area extends to a whole district or the tract in which the crop is grown. The Reserve Bank of India envisaged the formation of large central sale societies with village societies taking up marketing. In the fixing of the area of operations for a sale society three things must be taken into consideration—scope for business, availability of persons to manage the societies and the nearness to big markets.

At present a margin of $1\frac{1}{2}\%$ between borrowing and lending rates of societies is allowed. The Madras Provincial Bank lends at 3% to Central Banks for financing sale societies if the latter lend to the borrowers at 5%. The establishment of sale societies has brought down the rate charged by commercial banks which have opened branches in rural areas and lend out at low rates of interest. In view of the competition from commercial banks, sale societies should try to make money available to the ryots more quickly and provide for storage and transport of produce. The difference between borrowing and lending rates should be only sufficient to cover expenses. To bring down interest charges on borrowings the share capital of the society should be increased.

The by-laws of sale societies provide for the grant of loans up to 70 to 75% of the market value in the case of food crops and 60% in the case of commercial crops placed in the custody of societies. The factors that should be guarded against are that loans should not be given for very large amounts, as that would benefit only a few. A limit of Rs. 5,000 may be fixed but the factors that should determine the loan should be the liability to damage and deterioration of quality in storage, charges for godowns, insurance against fire etc., and market risk of fluctuation in prices.

The Problem of Storage.

The construction of godowns by sale societies is not encouraging in spite of the grant and subvention by Government. Twenty-five per cent of the estimated cost of the godowns is given as a free grant and the balance is given as a loan at $3\frac{1}{2}\%$ repayable in thirty years. In deserving cases Government have also been giving similar grants to village societies for the construction of godowns. On the 1st January 1939 out of 128 sale societies in the Presidency only twelve societies constructed godowns the cost of which was a little over $1\frac{1}{2}$ lakhs. Thirty-three

societies have had proposals on hand for construction of godowns at an estimated cost of Rs. 2·75 lakhs. The reasons for this poor progress are that a good many sale societies are not financially strong and cannot afford to meet three-fourths of the cost of construction of the godowns. In such cases government should be prepared to bear 50% of the cost. Difficulties are felt in the purchase or acquisition of sites and in such case Government land (Poramboke) should be freely assigned to sale societies.

In this connection it will be useful to discuss briefly storage facilities. There is a general inadequacy of storage facilities in some of the districts like East Godavari, West Godavari, Guntur, Nellore, Bellary, Anantapur, South Kanara, Malabar etc. The argument against the construction of godowns is that the small ryot has not enough grain to take to the godowns and has not the capacity to meet the cartage and godown charges. It must be noted that the co-operative sale societies can easily accommodate these small ryots in their godowns or the village credit societies can afford them such facilities, when cheap and small godowns are constructed in the villages. Facilities for warehouses in shandies, where a large number of small ryots meet weekly to sell their produce, may be provided. The rich cultivator who has a large quantity of produce can easily afford to store his produce in the godowns in the towns and profit out of the facilities of such storage. The question of grading and mixing of stock will not arise in the case of warehouses used by these rich ryots.

The Central Banking Enquiry Committee (Report) recommended that the question of providing warehouses by private agencies, licensing them and affording financial assistance to them should be taken up by the Provincial Governments. The United States of America in 1916 enacted the United States Warehouse Act with the object of encouraging the proper storage of agricultural produce and sound business practice and of making the warehouse receipts negotiable, which is a boon to cultivators. Public warehouses which stored agricultural produce were licensed under this Act. The warehouseman should furnish a bond of an amount fixed by the Government. The warehouse must have facilities for correct weighment and measurement and should allow itself to be inspected by Government. On depositing his produce in the warehouse, the cultivator will receive a receipt giving details of the weight and grade of the commodity and the receipt could be used as collateral

security against loans issued by banks. The Act was extended to many commodities and the storage of produce increased very swiftly. Mr. B. F. Madon's Bill published by the Central Banking Enquiry Committee (Report) is intended to introduce such independent warehouses based upon American model in this country. It is essential that at the outset every help should be given by Government e.g., guaranteeing a moderate dividend to start such independent warehouses, and facilities should be provided by Government for the inspection of such godowns which wish to be licensed. The warehouse receipts will become first class credit instruments which could be rediscounted by the Reserve Bank.

It has been suggested that the Reserve Bank through its Agricultural Credit Department and in collaboration with the Imperial Council of Agricultural Research undertake the starting of suitable warehouses. The cost of such warehouses, it is pointed out, should be met out of the profits accruing to the Issue Department of the Reserve Bank of India.

Another suggestion is that railway companies should construct warehouses in important railway stations and place them at the disposal of the sale societies and the public for a nominal rent in the initial stages. Railway receipts should be made negotiable and the receipts should give full description of the goods. Municipalities or local boards may consider the advisability of constructing godowns and of giving them on rent. Closely connected with warehousing facilities are pooling and grading, the importance of which has been discussed in the foregoing pages.

Returning to the suggestions for improving Co-operative Sale Societies, it must be the aim of sale societies to get better prices for the producers by conducting the business on a large scale. A central Co-operative union staffed by businessmen should be started for the smaller societies for the disposal of produce in the distant markets. There should be a by-law in the society compelling every member to sell all his marketable produce through the society. Such a provision for compulsion is made in the Bombay societies. The success of a sale society depends upon expert business management. The persons employed should be thoroughly honest and possess previous business experience. A sale society should as far as possible pool members' produce on the basis of standard grades under the Agricultural Produce Grading and Marketing Act.

State Aid.

In addition to Cooperative marketing, other methods of promoting marketing in foreign countries are by state aid. Among the methods by which the state helps the agriculturist are "tariff protection, financial aid to Joint Stock Companies for effecting the purchase and sale of the produce, valorisation, centralisation and regulation of exports, supporting a high inland price by the state monopoly of sale and international agreement and bilateral and multilateral treaties." India having no political and economic freedom is not in a position to adopt these methods. Some of the measures passed by the Government in this country to assist marketing are the Agricultural Produce Act of 1937 by which grade standards are being drawn up according to specifications. Grading of tobacco, rice, oranges, mangoes etc. is being gradually undertaken. Regulated markets are being introduced under the Madras Commercial Crops Markets Act of 1935 and the Act is being extended to such agricultural commodities as cotton, groundnut and tobacco. A Provincial Marketing Society has been started to co-ordinate the work and stimulate marketing activities and to ensure the direction of supplies of primary sale societies. A Central Marketing Board has been organised and a large staff of marketing officers appointed both in the centre and the provinces. Investigation is carried on by these boards under which the principal commodities like cereals, oilseeds, tobacco, fibres, fruits and animal husbandry products are at present being examined. Demonstration of any improvements suggested as the result of marketing studies is undertaken. Assistance is given to the establishment of grades and standards. These measures by Government do not compare favourably with the measures in foreign countries.

Conclusion.

Above all The Reserve Bank of India Act should be so amended as to make provision for the supply of intermediate credit to agriculture through its Agricultural Credit Department for periods varying from nine months to three years. The Federal Intermediate Credit system of the United States of America makes loans for periods not less than six months and not more than three years. In 1925 the Commonwealth Bank of Australia Act was so amended as to create a Rural Credit Department and to authorise the Bank to make advances through this Department to co-operative associations and other prescribed bodies

upon the security of primary produce, or land for periods not exceeding a year. The object was to introduce orderly marketing and to enable the cultivators to withhold their produce to improve the process of distribution throughout the year in the interests both of producers and consumers. The salient features of the American system and the Australian system should be adopted in the advance to agriculture through the Agricultural Credit Department.

Mere financing of agricultural marketing alone will not bring about an increased price for the producer. The many defects in marketing should be first rectified and attempts should be made to eliminate the middlemen by the formation of co-operative sale societies, by the construction of godowns and by encouraging pooling of crops. Such improvement will create a first class agricultural paper which will be easily rediscounted by the Reserve Bank.

CHAPTER 11.

LONG-TERM CREDIT-LAND MORTGAGE BANKS.

Need for Long-Term Credit Institution.

In a former chapter, we have referred to the need for long-term credit to agriculture in addition to short-term and intermediate credit. The long-term loans are to be repaid in small instalments out of the profits of agriculture without crippling the resources for current agricultural operations. The greatest difficulty confronting the agriculturist is the lack of financial accommodation for fairly long periods. The loans given by village moneylenders are not for sufficiently long periods, nor can those loans be returned in instalments. The only system of institutional credit is the Co-operative Land Mortgage Bank.

Land Mortgage Banks are of three types-the Co-operative Land Mortgage Bank, which is an association of borrowers, the Commercial Land Mortgage Bank which is a purely commercial concern working for profits and declaring dividends and the quasi co-operative land mortgage bank which partakes in varying proportions the ideals of co-operative and commercial institutions.

Examples of Mortgage Credit in some Foreign Countries.

The Landschaften of Germany are long-term mutual credit banks started in the 18th century. They are co-operative banks the members of which are land-lords. The security on which the bonds were sold was on the collective mortgage of land furnished and on the unlimited liability. The new landschaften are ordinary mortgage banks possessing no share capital but are merely syndicates of land-owning borrowers acting as intermediaries in providing capital on the basis of the guarantee which is granted after proper testing of the credit of the borrower and the value of the security. The commission charged for this service is very low. The banks are confined to definite places and thus knowledge of men and land values throughout the district was possible. Loan is granted to a limited percentage of the value of the land. Debentures based on lands are sold through these agencies. The period of loans

repayable in instalments is usually about 53 years. The banks are empowered to take possession of the property and sell the lands without resort to judicial proceedings. The Central Landschaften created in 1893 buys the debentures of provincial associations and issues its own debentures. At present the postal service and some of the social funds invest their funds in mortgage bonds. In addition to the landschaften, mortgage companies are organised and they grant real estate loans.

Even as long as 1800 the United States of America realised the importance of agriculture but until 1863 no serious attempt was made to establish banks to finance agriculture. It is not necessary here to discuss the chaotic condition of banking before 1916. Various commissions in 1908, 1910 and 1913 interested themselves in long term credit facilities to farmers and out of this interest was born the Federal Farm Loan Act of 1916. Two distinct systems of long term credit were provided by this Act. To satisfy the individualists a system of federal joint stock land banks was created. A group of ten persons with a capital of not less than \$ 250,000 could obtain a federal charter to operate a land bank subject to the supervision of the Federal Farm Loan Board. It was allowed to sell bonds not exceeding fifteen times its capital and surplus. The bonds however were not guaranteed by Government. They could lend on first mortgage upto \$ 50,000 to any one borrower, but not more than 50% of the value of land and 20% of the value of permanent improvements. Instalments were spread over a period of not less than five and not more than forty years. The rate to borrowers should not exceed 1% more than that paid on the bank's last issue of bonds, and in any case not more than 6%. All these banks suffered acutely from the severe decline in farm income and land values and their bonds were quoted very low in the market. Some of them were granted loans by the Reconstruction Finance Corporation. The Federal Farm Mortgage Act of 1933 prohibited these banks from making new loans and made provision for their liquidation. This left the field open for the federal land banks of the co-operative type.

The Act of 1916 created a Federal Farm Loan Board which divided the United States into twelve districts in each of which was established a federal land bank. The initial capital was provided by the Treasury in addition to public subscriptions. This initial capital was to be replaced by the subscriptions of the national farm loan associations. These associations consist of ten or more farmers who desire to borrow on the

security of their farms and are prepared to give a first mortgage to the association and subscribe to the stock to the extent of 5% of the loan. The association sells the mortgage to the federal land bank of its district and subscribes for stock in the land bank to the extent of 5% of all loans obtained. The borrower can obtain a loan from \$100 to \$50,000 but the loan must not exceed 50% of the value of his land and 20% of the value of the improvements. The twelve land banks are jointly liable for the bonds issued and are limited to twenty times its capital and surplus. Thus the land banks hold $\frac{1}{3}$ of the mortgage debt outstanding. By the Act of 1933 the Farm Loan Board was abolished and a department of Farm Credit Administration assumed responsibility. Under the Emergency Farm Mortgage Act, a farmer can obtain loans direct from the land banks if he is not served by a farm loan association. It granted interest reduction for the federal farm loan borrowers for a period of five years. It allowed federal land bank borrowers to postpone principal payments on farm mortgage loans and allowed the land banks to grant extensions to really worthy borrowers and reamortize such extensions. It enabled farm mortgage loans to be made for as much as 75% of the value of farm improvements and personal property mortgaged. Provision was made for loans to be granted on second mortgage to the extent of 75% of the value of property offered as security. It was enacted that these funds should be made by the Land Bank Commissioner from the funds placed at his disposal by the Reconstruction Finance Corporation. Thus by Roosevelt's recovery programme agricultural borrowers have been given rates which compare very favourably with those in industry.

The Credit Foncier of France started in 1852 acts as an apex bank for the mortgage banks. It is supervised by Government and enjoys special legal privileges. Government treasuries are used for the receipt of its dues, deposits and surplus funds. It pays reduced stamp duty on deeds of registration, transfer of debentures etc. The debentures can be floated up to fifty times the nominal capital. By a system of 'purges' the bank can bring to light any hidden claims on lands and free the title of the real estate from claims of third parties. The debentures of the Bank are repayable to bearer with no fixed time of maturity but repayable with bonuses. For the recovery of loans no ordinary legal procedure is necessary, for its loans are the first charge on land. It can make any system of loaning for agricultural improvement. At present the provision of long-term credit is made through the regional

banks which guarantee the loan and on the mortgage of land the loan is made repayable within 25 years. In addition to lending to societies private individuals can receive loans directly.

The savings and state banks of Australia afford to primary producers financial assistance by means of long-term loans out of the investment of small savings. The Commonwealth Savings Bank of Australia acquired from the state institutions which it absorbed more than £2 million worth of mortgages. It assists the Rural Bank of New South Wales by financing its operations. The State Savings Bank of Victoria is controlled by Commissioners appointed by the Governor in Council. The reserves which the Bank built out of its capital are its capital. Repayment of the deposits with the bank are guaranteed by Government. While the Savings Bank Department engages in the ordinary business of a savings bank, the Credit Foncier Department which issues debentures and stock, of which 60% is held by the Savings Bank Department, lends money repayable in regular instalments over a long period. Farm loans which are for a maximum period of 31½ years are limited to £4,000 (Rs. 42,000 nearly) and cannot exceed 75% of the valuation. Conditions vary for loans on homes and for persons with a certain income. In South Australia the State Bank is controlled by five members appointed by the Governor in Council. It was first established as a mortgage bank upon the credit foncier principle but its activities have been extended. A general banking department was also added. The advances in this department are upon over-draft. A borrower can arrange for a mortgage, which covers a fixed loan from the Credit Foncier Department and an overdraft from the Banking Department. In New South Wales, the Rural Bank was established in 1933 to take over the Rural Bank Department and the Advances for Homes Department carried on by the Government Savings Bank of New South Wales up to 1931. It is controlled by three commissioners appointed by the Governor in Council. The inscribed stock and debentures of the Rural Bank were issued to the Commonwealth Savings Bank. The proportion of longterm loans is about 40% of the total loans and advances. The State Advances Corporation in Queensland, the Agricultural Bank of Tasmania and the Agricultural Bank of Western Australia, which are analogous to the State banks in other states, are State Government Departments. Besides these State Banks for long-term credit, the pastoral finance companies provide both short-term and long-term capital for

primary producers, mainly to wool-growers. The greater proportion of their funds is provided by share or debenture capital and reserves. The life insurance societies or companies invest their large funds in mortgages. A recent development is the combination of a mortgage loan with life policy. The trustee companies invest the trust funds usually in Government securities and mortgages. Thus in Australia the longterm credit needs of agriculture are supplied by different institutions but the state banks are the most important of them all.

History of Land Mortgage Banking

As early as 1863 the Land Mortgage Bank of India limited based on the type of the credit foncier of France was registered in London and started its operations in the three principal cities of Calcutta, Bombay and Madras. The length of loans was only 7 years and the rate of interest was 7 or 8%. For twenty years the bank was working and at the end of that period died away. Sir Frederick Nicholson, however held in 1895 that land banks were not needed by the ryots of the Madras Presidency. But the Committee on co-operation in 1915 realised the need for the establishment of land mortgage credit associations on the model of those in the European countries. The Finance member of the Government of India in 1919 supported the formation of such banks but was against Government taking up the establishment of such banks on a large scale.

In the same year Mr. Himingway, then Registrar of Co-operative Societies in Madras, proposed a scheme for the raising of long-term money by the issue of debentures based on the mortgages of unencumbered immoveable property from the members of rural societies through the same co-operative machinery which dealt with short-term lending. The Provincial Bank is to issue debentures on the security of mortgages transferred by primary societies. As this involved the mixing up of long-term and short-term business a modified scheme suggesting the issue of debentures by central banks and dividing the business of central banks and primary societies into two separate departments was suggested. This scheme was however not tried. Mr. J. Gray the then Registrar drew up a scheme for the starting of the primary land mortgage banks and Government sanctioned this scheme in 1925. The principal features of these banks were "(i) limited liability, (ii) restriction of the area of operations to compact groups of villages within six or

seven miles from their headquarters so as to ensure on the part of the directors intimate knowledge of the borrowers and the lands offered as security, (iii) limitation of the borrowing power of the banks to 8 or 10 times their paid-up capital, (iv) floatation of 20 year debentures carrying a rate of interest not exceeding 7% and a fixed charge on the concerned mortgages, (V) fixation of the maximum loan for an individual borrower at Rs. 1,000 with a further restriction that it should not exceed 50% of the market value of the mortgage land, (vi) interest on loans not exceeding 9%, (vii) fixation of the period of loan at 17 years, the margin of three years being provided for against possible defaults of borrowers and (viii) appointment of the Registrar as the Trustee for these banks to safeguard the interests of the debenture-holders." In order to encourage the public to invest in these debentures, Government undertook to purchase an amount equal to that issued to the public subject to a maximum of Rs. 50,000 from any one bank and Rs. 2½ lakhs for the whole Presidency. The formation of these banks was confined to wet districts. A few banks were started in 1925 and soon they began to spread. The Townsend Committee on co-operation and the Royal Commission on Agriculture were of opinion that for the proper working of the bank, a Central Land Mortgage Bank should be started to float debentures. The various kinds of debentures floated by the primary banks militated against the whole scheme. At a certain stage competition among purchasers would raise the rate of interest, the security offered would be low and the whole system of debentures would be brought into disrepute by the mismanagement of a single institution. The main recommendations of the Townsend Committee for the formation of a Central Land Mortgage Bank were "(1) constitution of the bank on a limited liability basis with primary land mortgage banks and individuals as share-holders, the latter for attracting capital and providing business talent and organising capacity to run the bank efficiently, (2) fixation of the dividend on the share capital at a rate not exceeding 7½%, (3) fixation of borrowing power, not exceeding 25 times the paid-up capital, (4) appointment of a trustee to ensure that the bank fulfilled its obligations to its debenture-holders, (5) raising of working capital by the issue of debentures only, which should have a floating charge on all the assets of the bank, (6) guarantee of interest by Government on the debentures issued by the bank in the first five years, (7) debentures to be made trustee securities, (8) fixation of the maximum period of debentures and of the maximum period of loans at

25 or 30 years, (9) loans to be confined only to land mortgage banks, (10) lending rate not to exceed 7%, (11) provision to be made for the disposal of collections either by the creation of a sinking fund or by the bank purchasing the debentures at par in the open market or by periodical redemption of debentures by drawing lots after due notice, and (12) representation of debenture-holders on the Board of Management." Based on the recommendations of the Townsend Committee, the Madras Central Land Mortgage Bank was formed in 1929 with primary banks, and individuals as members. The bank was given the right to issue interest-bearing debentures on the security of the mortgages executed by borrowers in primary land mortgage banks and assigned to it by them. From the beginning Government gave many facilities to the Central Land Mortgage Bank by guaranteeing debentures and by placing the service of certain officers at its disposal to inspect primary mortgage banks. The Co-operative Land Mortgage Banks Act of 1934 has given powers to the bank for the speedy recovery of arrears and certain legal powers for the sale of mortgaged land without the intervention of the Court and some privileges in paying to the creditors of mortgagors direct.

Organisation

The membership in a primary bank is confined to persons who own agricultural land in the area of operations of the bank. These banks are based on share capital and limited liability. The present jurisdiction of a bank is generally a revenue taluk. The executive management of the affairs of the bank vests in a board of directors consisting generally of seven elected members and members nominated to the board. The nominated members have the same rights and privileges as an elected member. The villages in the jurisdiction of the bank are divided into convenient groups and a member residing in each group is elected to the Board. In all new banks the first set of directors is nominated by the Registrar. The ultimate authority in all matters relating to the administration of the bank will be the general body of the members who will meet at least once a year.

The administration of the Central Mortgage Bank vests in a Board and is subject to the control of, and delegation from, the Board in an executive committee. The Board consists of fifteen members of whom the Registrar of Co-operative Societies shall, ex-officio, be one. Six members of the Board will be elected from among the individual mem-

bers and six from among the representatives of the share-holding mortgage banks, and two will be nominated by the Registrar with the approval of the Government. The anomaly in the Registrar nominating two members lies in the fact that the Registrar himself is a member of the Board. The Board will settle all details in regard to the period of repayment of loans granted by them, the instalment for repayment, the rate of interest, the penal interest to be charged on overdue instalments etc., and will be in charge of the general administration of the bank. The entire administration of the bank will be vested in an executive committee consisting of six members under the control of the Board. The executive committee will deal with all applications for loans received from mortgage banks, obtain from the Registrar full information regarding such banks and see that loans are granted to them with due care and caution. The ultimate authority in all matters will rest in the general body consisting of ex-officio and nominated members of the Board, individual members and delegates representing mortgage banks.

Loans of the primary Banks

The funds of the bank are composed of share capital, loans from the Central Mortgage Bank and entrance and other fees. The share capital of each bank is fixed and is composed of A class shares of Rs. 10 each and B class shares of Re. 1 each. The holders of the latter have no power to vote. The liability of the members of the bank is to be limited to the share capital subscribed by them. The total borrowings of the banks should not exceed twenty-times the paid-up share capital and reserve fund.

Loans are given generally for the following purposes: redemption of mortgages, discharge of other prior debts, improvements of land and of methods of cultivation; and purchase of lands in special cases on condition that such purchase will enable the ryot to round off his holding and work it more economically. In practice all loans advanced are for the discharge of the old debts of the borrowers. The maximum amount of loan that a member can take is Rs. 10,000. Subject to this maximum a member is eligible for a loan not exceeding 20 times his paid-up share capital. Again the loan given to a member on the mortgage of his land should not exceed three-fourths of the estimated net income from that land during the period of the loan. Every loan is to be secured by a mortgage of lands and should not exceed 50% of the estimated market

value of such lands. The mortgage is to be without possession. The land mortgaged to the bank as security should have no prior encumbrances except the mortgages to be redeemed by the loan given by the bank. The period for which the loan is granted should not exceed 20 years. The loan may be repaid either in equated instalments or in annual instalments together with interest due on the amounts outstanding from time to time. A loan granted should be applied for the purpose for which it was given. Misapplication will at once entail the closing of the loan account. The board of directors may call in a loan at any time they like irrespective of the term for which the loan was granted if they think that in the interest of the bank the loan should be closed.

Procedure in regard to sanction of the loans.

Normally applications have to pass through various stages before the loans are granted. A loan application in the prescribed form is first referred to the directors for investigation as to title, valuation, repaying capacity etc. The applicant should send with his application all available documents of title; two members of the Board of Directors will inspect the lands proposed to be mortgaged and will submit an accurate estimate of the market value of the lands and the income from the lands and the repaying capacity of the borrower. In actual practice, in many banks, the directors do not inspect the lands. The preliminary investigation conducted by the supervisor is usually taken by the directors as correct. When a loan application appears to be a fit case, an encumbrance certificate for 23 years in respect of the lands to be mortgaged is obtained from the office of the Sub Registrar. There is a legal adviser to each bank and the papers are then sent to him for legal opinion regarding the applicant's rights to the property offered as security. The Hindu law is so complicated that it is necessary that before granting the loan the rights to property are properly defined. When the legal adviser returns the record to the bank with his remark a final report is prepared by the bank for submission to the Sub Deputy Registrar who is in charge of the bank. The Sub Deputy Registrar after scrutiny of the papers and inspection of the lands will submit a report. In fact the Sub Deputy Registrar's report is an important one, for the Directors usually assent to the report of the Sub Deputy Registrar. The report of the Sub Deputy Registrar should contain the following information:—

1. The purpose for which the loan is required. If the loan is for the purpose of discharging prior debts, he should satisfy himself that the amount of the loan applied for is sufficient to discharge the prior mortgage debt. The prior mortgagee should be questioned and the exact amount due ascertained from him. In the case for liquidating other prior debts, very careful scrutiny is to be made as to the purposes for which the debts were contracted and evidence should be secured. In the case of improvements of land, he must fully satisfy himself that they are desirable.

2. The adequacy of the security offered for the loan.

3. The applicant's title to the lands offered for mortgage.

4. The encumbrances on them—The encumbrance certificates for 23 years should be carefully examined to find out whether all prior mortgages (except the one to be redeemed by the loan) had been discharged. All the available discharged documents should be filed with the application and in cases where they are lost or are not available, the written declaration of the prior mortgagee that his mortgage was duly discharged should be obtained. It is generally in this enquiry that much of the delay is caused.

5. Verification of village accounts relating to them.

6. The basis on which he has estimated the value of, and income from, lands:—As the report in respect of loans is to be based on this report, this has to be very carefully prepared. The market value of that land should be determined after ascertaining the price of that land or a portion of it in recent years, the rise or fall in the value of the land in the neighbourhood since the date of the purchase of the land, the price paid for adjoining lands which are of a similar type and quality and the points of difference between those lands and the lands to be offered as security (i.e., wells or trees in the lands which appreciated the value of the lands sold), the net annual income from the land, the opinion of the local credit society or of disinterested respectable persons of the locality and the sale value of similarly situated property in Court or revenue auction. As the amount of the loan should be only three-fourths of the total net income of the land mortgaged during the period of the loan, it should be carefully assessed. An examination of the supply of irrigation source will be very useful in this case.

7. The repaying capacity of the applicant—As the annual net income from land will go to cover the annual instalments, the borrower's income from his other lands or from other sources must be ascertained for the purpose of judging his capacity to meet the ordinary needs of his family and special needs of an inevitable nature such as marriages. The principle is that no loan should be granted unless the produce from the applicant's lands is sufficient to cover both his living expenses and the instalments due to the bank.

8. Whether the officer himself inspected the land; and

9. Whether the loan may be sanctioned.

The application for loans with all the records is placed before the Board of Management and the consolidated loan application is sent to the Central Land Mortgage Bank through the Deputy Registrar for Land Mortgage Bank. The Executive Committee of the Central Land Mortgage Bank then examines the application. The legal section of the Bank scrutinises the loan applications very carefully. The decision is conveyed to the primary banks and in cases where loans are sanctioned, registered mortgage deeds are to be obtained in the prescribed form. These deeds will be assigned to the Central Land Mortgage Bank. In addition an assignment deed stating that the primary bank will adopt the same system of repayment as adopted by the borrowers concerned in the mortgages transferred to it should be sent to the Central Land Mortgage Bank. The latter will then place the funds for disbursement to applicants at the disposal of the primary banks. The money will not be paid to the borrowers direct but will be paid to the creditors of the borrowers.

Sub Deputy Registrar's enquiry into an application.

An enquiry made by the officer in a loan application No. 15/1937-1938 of the Chidambaram Co-operative Land Mortgage Bank will be interesting to recount here.* The applicant is Sellagovinda Pillai of Pinnaloor. His family consists of his wife and minor baby, brother and his wife and his mother. He is a cultivating agriculturist. The applicant is not a member of any unlimited co-operative society but is a member of the Chidambaram Paddy Sales Society from which he has

*From the file in the Central Land Mortgage Bank.

borrowed Rs. 250. A loan from the land mortgage bank would be conducive to the economic benefit of the applicant.

Purpose

The statement of indebtedness has been filed. Originally he applied for loan of Rs. 950 to discharge the debts on four promissory notes shown in the statement. He has since discharged one note and he now requests the sanction of Rs. 650 only. The total amount of loan payable to all creditors on date comes to Rs. 722-7-6. The debt to the Paddy Sales Society will be cleared by the sale of produce pledged. The extra debt over Rs. 650, the amount for which a loan is applied for, will be cleared from his private resources. The loan from the land mortgage bank will bind his minor son.

Hypotheca.

The applicant offers as security 5·09 acres wet land situated in Pinnaloor. The assessment paid is Rs. 46-6-0. On inspection, the fields were proximal to irrigation channels. All lands were irrigated by second class sources of irrigation and hence acceptable as hypotheca.

Title

Three pieces of lands are ancestral to the applicant—one is self-acquired and the other pieces were got by the applicant's mother through a settlement deed. At the time of the death of the father of the applicant, the sons were minors and the "pattas" stood in the name of the mother. She has joined in the execution of the document to the Bank. The encumbrance certificates are filed. There are no subsisting encumbrances. The title is safe.

Value

The applicant has not valued the hypotheca. The surveying director has valued the hypotheca at Rs. 1645. Sub Deputy Registrar's valuation is Rs. 1,374.

Income.

(a) *From Hypotheca:* The applicant cultivates his own land and, in view of the fact he and his brother work on the land, the cultivation

cost works out to a minimum. The average yield per acre is 30 'kalams' paddy.

	Rs.	A.	P.
The total yield for 5.09 acres is 152.7 kalams and the price at Rs. 1½ per kalam is	..	229	0 0
Cultivation cost		46	0 0
		183	0 0
Kist and Cess	..	40	6 0
Net income	..	142	10 0
Loan instalments	..	56	11 0
Surplus	..	85	15 0

(b) *From other sources:* Besides the hypotheca, the applicant owns 3.67 acres wet land in Pinnaloor, .65 acres wet in Thrinjikotti and 2.32 acres dry in Pinnaloor. He is reported to have purchased in a court sale 2.65 acres wet in Pinnaloor which is not taken into consideration. Nor is his wife's property in Sreemushnam taken into consideration. The wet lands are as good as those hypothecated. The average yield is 25 kalams an acre.

	Rs.	A.	P.
Income from wet lands	..	162	0 0
Cultivation cost	..	42	0 0
Kist and Cess	..	29	0 0
Balance	..	91	0 0
Income from dry lands	..	20	0 0
Total	..	111	0 0

Family Expenses

After investigation it has been found that the applicant's family, who are actual workers in the field, may require about Rs. 165 a year.

Repaying Capacity—

<i>Income</i>				<i>Expenditure</i>					
		Rs.	A. P.			Rs.	A. P.		
From hypotheca	..	142	10	0	Family expenses	..	165	0	0
Other sources	..	111	0	0	Instalment of the loan		56	11	0
Total	..	253	10	0	Total	..	221	11	0

There is a surplus of Rs. 31-15-0 and hence there is no doubt that the applicant will have a sound repaying capacity.

The officer gives a summary of his findings in the end and recommends the loan under the following conditions—"The extra debt of Rs. 72-7-6 should be discharged by the applicant from his private resources; (2) the indenture to the Bank should be executed by the applicant, his brother and mother, the applicant executing it for himself and as guardian for his minor son."

The above account by the officer of the Department gives an idea of how thorough and systematic is the investigation on a loan application.

Financing Bank—(a) Issue of Debentures.

As already described, the primary land mortgage banks originally issued the debentures but in 1929 to centralise the debenture issue the Central Land Mortgage Bank was started. With the previous sanction of the Trustee who is the Registrar of Co-operative Societies, the Board of Management may issue debentures of one or more denominations for a period not exceeding twenty-five years on the security of mortgages and other assets transferred by the mortgage banks to the bank. The interest on the debentures payable half-yearly should not exceed 6½%. At present the interest on the debentures is 3% per annum. The total borrowings of the bank by the issue of debentures should not exceed 25 times the paid-up share capital plus the reserve fund. Until the beginning of the Co-operative year 1937-38 debentures were issued on condition that for the first ten years they would not be redeemable except to the extent of principal collections. This clause was deleted as the investors felt that it was inconvenient and the issue of debentures

was made irredeemable for the first ten years. Accordingly debentures of the 24th series were irredeemable for the first ten years. The debentures issued during the year 1937-38 were for Rs. 25,87,000 at 3% rate of interest.* At the end of the year, the debentures outstanding amounted in all to Rs. 1,31,85,700. It was usual to issue debentures in dribblets throughout the year when the money was required. At the instance of the Reserve Bank of India the Government wanted this system to be changed to that of issue of debentures once or twice a year at convenient times when monetary conditions were favourable. The Government agreed to give temporary accommodation to the Bank up to the limit of requirements every month till the debentures were floated. This temporary accommodation was to be charged at the bank rate then prevailing. Owing to financial difficulties, the Government discontinued temporary advance and permitted the bank again to issue debentures in dribblets.

The principal of and the interest on the debentures are guaranteed to a maximum amount fixed by the local Government from time to time. This is to induce confidence in the public about the security of the debentures. The Government have recently raised the guarantee of principal and interest from Rs. 125 lakhs to Rs. 250 lakhs.

Before the introduction of the rule that for the first ten years, debentures would be irredeemable, lots were drawn every six months to the extent of principal collections made and debentures retired. Debenture holders who did not want to be redeemed were allowed to have their debentures drawn and converted into the new 3% debentures irredeemable for the first ten years.

(b) *Sinking Fund and Debenture Redemption Fund.*

In their order No. 839 dated 29-3-38, Government directed that the maximum amount of guarantee under Section 6 of the Land Mortgage Banks Act would be enhanced only if the Bank would agree to the following conditions.

" (1) The bank should constitute a sinking fund whereto "the bank will throughout the period of currency of each series of debentures issued make an annual equated contribution to a debenture redemption

*Vide Table 60 for a full statement of the issue of debentures.

fund, at such a rate that the contribution accumulating at compound interest at the same rate of interest as that borne by debentures will provide sufficient funds to pay off the debentures at maturity."

(2) The bank should retain "a margin of at least $2\frac{1}{2}\%$ between the rate of interest charged to the ultimate borrower and the rate of interest paid on debentures."

(3) The "rate of dividend paid by the Central Land Mortgage Bank to its share-holders should not hereafter exceed 1% above the rate of interest at which it issues debentures."

As the Central Land Mortgage Bank has issued 20 years' debentures which are non-redeemable for the first ten years, there has arisen the necessity of creating a Fund to invest a certain sum towards the redemption of debentures after the ten years. The Bank itself proposed to put the collection in what they called a Debenture Redemption Fund. By the end of the period the total collections into this fund will be equal to principal and hence there will be no difficulty in redeeming debentures. According to this method during the period of the loan, the money accumulated in the Debenture Redemption Fund should earn interest at the rate at which debentures were floated. If the actual yield is less than this amount there will be a loss to the Bank but if it is greater, the Bank will earn a profit. The Government wanted the Bank to start a Sinking Fund as was recommended by the Reserve Bank. The Bank has to make an annual equated contribution to the Fund so that the accumulated amount might yield at the end of the period of twenty years the principal amount. As the Reserve Bank assumes, if the rate of interest on investment is $2\frac{1}{2}\%$, a sum of Rs. 39·147 should be invested every year for twelve years to accumulate Rs. 1,000 by the end of the period. This sum of Rs. 39·147 can be got only through the annual payments of the borrowers. On a principal of Rs. 1,000 the Central Land Mortgage Bank received from the primary banks an annual equated instalment of Rs. 73·583 for twenty years assuming 4% rate of interest to primary banks. After paying Rs. 30 interest on debentures for Rs. 1,000, the balance will be Rs. 43·583. If Rs. 39·147 was invested in the sinking fund the balance for working the Bank will be Rs. 4·436 for every loan of Rs. 1,000 granted. As this will not be enough for the working expenses of the Bank, an increase in the rate of interest by $\frac{1}{2}\%$ is recommended by the Government. Thus the ultimate borrower has to pay $5\frac{1}{2}\%$. Moreover investment of sinking fund in

Government and such other securities will yield some loss by way of interest, as the Land Mortgage Bank will have to pay a higher rate of interest on debentures. There are some other objections to the Sinking Fund. The collections towards the principal by the bank are not the same every year. They are less in the earlier years and more in the later years. According to the sinking fund scheme more should be invested in the sinking fund than what is collected in some years. This will result in the raising of the rate of interest to borrowers. What with the highly conservative valuation of the mortgaged lands, the lending only up to 50% of the value of the land and the careful scrutiny of the repaying capacity, the working of the Bank has been satisfactory. Thus it disproves the necessity for a complicated system of a sinking fund. Again the share capital and the reserve funds created would cover any defaults by the primary banks. Hence the sinking fund scheme adopted by a public body or Government should not be imposed on the Central Land Mortgage Bank. On these grounds the Central Land Mortgage Bank wanted the simple debenture redemption fund by which the collections from primary banks will be invested in Government securities and debentures will be purchased when available in the open market. But even in the Debenture Redemption Fund, the Land Mortgage Bank will have to bear the loss on account of interest on investment. So either in the case of sinking fund or the Debt Redemption Fund, a special reserve fund, as suggested by K. D. Kothari, for meeting the loss on account of interest on investment of funds should be created. Mr. Kothari gives an example of the working of the scheme. The Central Land Mortgage Bank issues 23 years' debentures of Rs. 10 lakhs at 3%. Assuming that the principal recovery for the first year comes to Rs. 50,000 and assuming that the rate of interest obtainable on investment of funds in Government securities is $2\frac{1}{2}\%$, the Bank will have to pay as interest every year Rs. 1,500 to debenture-holders in respect of this Rs. 50,000 and will be receiving Rs. 1,250 as interest every year for the remaining 19 years, at the end of which period the debentures are to mature. The amount of Rs. 250 which is short every year should be made good out of an investment of fund. "The present value of Rs. 250 on the basis of 19 years at $2\frac{1}{2}\%$ would amount to Rs. 3,750, and this amount should be set aside by the Bank out of the annual profits. Assuming that recovery for principal amount comes to Rs. 50,000 next year also and Rs. 50,000 of that year together with Rs. 50,000 of the

previous year are invested at $2\frac{1}{2}\%$, bringing thereby, annual loss of Rs. 500 for the remaining 18 years, the credit balance of the Special Reserve Account should come to Rs. 7,250 which is equal to present value of Rs. 500 for 18 years at $2\frac{1}{2}\%$. If the sum of Rs. 3,750 of the previous year had been also invested at $2\frac{1}{2}\%$, it would have earned interest of Rs. 93-12-0 and so the Bank would be required to make a further provision of Rs. 3,406-4-0 out of the profits of the second year in order to bring the balance of special reserve account to Rs. 7,250. The Bank has to make provision to this fund out of its annual profits for the first 11 years, and that too, on diminishing scale, and after the first 11 years, the Bank can draw against this fund in order to recoup the losses which would arise for the reason that the loan balances earning remunerative rate of interest would become gradually smaller, while investment out of debenture fund giving comparatively smaller yield will become larger year by year." This scheme of the Special Reserve Fund will be very useful to stave off any losses incurred by the Central Land Mortgage Bank and so can be profitably adopted.

In accordance with the Government order, however arrangements have been made to constitute a Sinking Fund for the 24th and 25th series of debentures issued with the condition that they are irredeemable for the first ten years. The rate of interest to ultimate borrowers for loans for which mortgages were executed after 8-4-1938 has been raised to $5\frac{1}{2}\%$ per cent and 6%. The following table will give an idea in the variation of the rate of interest.

Rate of interest (%)			Periods during which the interests were in force
On debentures	On loans to primary bank	On loans to individual borrowers	
6, $6\frac{1}{2}$, $6\frac{1}{4}$	6, 7, $7\frac{1}{2}$	8, $8\frac{1}{2}$	16th September 1930 to 24th May 1933
$5\frac{1}{2}$	7	8	24th May 1933 to 29th August 1933
5	7	8	29th August 1933 to 4th December 1933
5	6	7	4th December 1933 to 1st June 1934
4	$5\frac{1}{2}$	$6\frac{1}{2}$	1st June 1934 to 1st May 1935
$3\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	1st May 1935 to 19th October 1935
$3\frac{1}{2}$	5	6	19th October 1935 to 13th March 1936
$3\frac{1}{2}$	$4\frac{1}{2}$, 5	$5\frac{1}{2}$, 6	13th March 1936 to 26th August 1936
$3\frac{1}{2}$	4	5	26th August 1936 to 8th April 1938
3	$4\frac{1}{2}$	$5\frac{1}{2}$	8th April 1938 to 13th February 1939
3	5	6	13th February 1939 onwards.

Loans by Central Mortgage Bank.—From its inception the Bank advanced to primary land mortgage banks 8921 loans amounting to Rs. 164·43 lakhs up to 30th June, 1938.

*Number of applications and loans according to value 1929 to 1938**

Value of loan	No. of loans	Amount	Percentage of the numbers of loans to the total number of loans	Percentage of the amount to the total amount of loans
Below 500	766	2·63	8·60	1·6
Rs. 500 to 1000	2048	13·5*	23·00	8·2
" 1000 to 2000	2807	35·45	31·5	21·5
" 2000 to 3000	1369	30·21	15·32	18·4
" 3000 to 4000	754	24·06	8·44	14·7
" 4000 to 5000	425	17·84	4·80	10·9
" 5000 to 6000	651	32·58	7·30	19·8
" 6000 to 7000	30	1·85	0·30	1·1
" 7000 to 8000	20	1·44	0·20	0·9
" 8000 to 9000	11	0·90	0·10	0·5
" 9000 to 10000	4	0·36	0·04	0·2
" 10000	36	3·60	0·40	2·2
Total	8921	164·43	100·00	100·0

It may be seen from the above table that loans between Rs. 1,000 to Rs. 2,000 and between Rs. 2,000 to 3,000 constitute the major portion of the loaning operations of the Bank. During the year 1937-38 applications for Rs. 49,62,755 were received by the Bank. Applications for Rs. 1,65,440 were rejected for various reasons and loans for Rs. 44,73,153 were sanctioned. The loan application received and dealt with during the year fell far short of the expectations because transactions were held up for four months on account of the Agriculturists' Relief Bill being discussed in the Legislature. The total amount of loans outstanding on 30-6-38 was Rs. 1,40,79,858-9-2. The value of debentures outstanding at

*From the annual reports of the Central Land Mortgage Bank.

the end of the year was Rs. 1,31,85,700. To cover the amount in excess debentures were issued. According to the valuation of Co-operative Sub-registrars the value of properties mortgaged and assigned to this bank was Rs. 4,29,12,559. The total extent of the property mortgaged is 1,07,041 acres 88 cents.

Progress of the Primary Banks and the Central Land Mortgage Bank.

A study of the growth of the Central Bank for the past three years will be interesting:¹—

	1935-36	1936-37	1937-38
1. Number of members—			
Individuals ..	198	457	478
Primary Land Mortgage Banks ..	79	90	94
2. Share capital ..	3,58,900	5,34,300	6,69,300
3. Borrowings—			
Debentures ..	79,44,400	111,84,400	131,85,700
Deposits ..	4,80,112	2,50,754	6,37,277
Overdraft ..	..	5,115	4,21,296
Loans ..	..	..	1,00,000
4. Loans Outstanding against Primary land mortgage banks ..	78,66,231	1,12,85,968	1,40,79,859
5. Investments in Government Promissory Notes etc.	6,35,045	6,92,426	11,68,638
6. Overdues from Members ..	..	..	..
7. Net profits ..	46,765	64,422	92,962
8. Reserve fund after audit ..	1,12,376	1,28,821	1,58,858
9. Other reserves—	10,000	20,000	40,000
Bad debt reserve ..	..	..	20,000
Depreciation reserve ..	..	20,000	20,000
10. Dividend declared ..	6	5	4

The bank shows a remarkable progress in all respects. There are no overdues at all from members.

1. Evidence of the Committee on Co-operation, Madras

Table 61, Appendix II gives an idea of the number of primary land mortgage banks in each district in the Province, the number of taluks and villages covered by them etc., and the general expansion. Land mortgage banks are started in all the districts and it is only in some taluks of the districts that there are no facilities for long-term credit. In the South Arcot where there are eight taluks, there are six land mortgage banks and only one taluk is not served by land mortgage banks. There is yet scope in the Presidency for starting new banks. Moreover some portions of the district may be included in the jurisdiction of the existing banks. In the dry districts there are good portions uncovered by land mortgage banks. The question of starting banks in the dry areas bristles with difficulties. The benefit of the banks has not spread in zamin and inam areas which are not surveyed and settled. On the 1st of April, 1939, there were 109 land mortgage banks in the Presidency and Government permitted the formation of nine more banks during 1939-40.

The banks in all advanced only Rs. 176 lakhs to the ryot. When considering the volume of indebtedness of the agriculturists the loans from mortgage banks have not touched the fringe of the problem. There is yet scope for great expansion of these banks. It is necessary that an effective co-ordination of work should be brought about between Debt Conciliation Boards which are engaged in the scaling down of debts and the land mortgage banks.

The help to big landholders and Zamindars is another problem. Primary land mortgage banks can take such work only with great diffidence. In fact they are incapable of taking this work. These big landholders may require large sums for a long term for developing their estates or for redeeming debts. Only specialised institutions can come to their rescue.

Some suggestions and conclusion.

The usual complaint in the villages is the inordinate delay in the sanction of loans by land mortgage banks. In the survey conducted in the Cuddalore Taluk, a ryot of the Kottuvancheri village said that it took nearly two and a half years for the sanction of a loan. Inspecting some loan applications in the Central Land Mortgage Bank, the writer found some delays in the sanction of loans. For example loan application No. 15-1937-38 of the Chidambaram Land Mortgage Bank was received

by the Bank on 4-3-1938, referred to supervisor for preliminary enquiry on 1-4-1938, encumbrance certificate was applied for in the Sub Registrar's office on 13-7-1938 and was received on 18-7-1938, was referred to the supervisor or group director for final scrutiny on 19-1-1939, the final report from the supervisor or group directors was received on 20-1-1939, was referred to the legal adviser on 23-12-1938 and the report was received on 23-1-1939, was referred to the Sub Deputy Registrar for scrutiny on 27-3-1939 and the remarks were received on 28-3-1939, the meeting sanctioning a loan of Rs. 650 was held on 30-4-1939 and the Central Land Mortgage Bank received all the records on 24-5-1939. After scrutiny by the Central Land Mortgage Bank, the money would have been sent to the primary bank at least after a period of two months. Disbursement of loans would have taken at least another month more. Thus for the sanction of a loan, it has taken nearly $1\frac{1}{2}$ years. But an interview with the supervisor has revealed that usually the time taken from the date of application to that of disbursement of the loan is between four months to one year. According to the Central Land Mortgage Bank, the average time taken by a land mortgage bank from the date of the loan application to the date of sanction is about six months. It takes about one month for a sanctioned loan to be disbursed to the primary bank. In the actual disbursement to the creditors, another month is taken, though, in some cases, owing to the dilatory tactics of an unwilling creditor or for other reasons, a larger time is taken. The reason for the delay, to some extent, is the necessity for a loan application to pass through several stages in a primary bank. The main cause of delay is the difficulty in getting the necessary documents of title. The practice of preserving title deeds, such as sale deeds or discharged mortgage bonds is not common. At least in future, legislation should be introduced for the preservation of such deeds. A great part of the delay is caused in getting the vouchers for discharge of the mortgages which are disclosed on a scrutiny of the encumbrance certificate. After the passing of the Agriculturists' Relief Act, creditors still refuse to take the scaled-down amount under the Act. So many borrowers take time to find money to pay the extra debt due by them. There is no legislative provision enabling the mortgage banks to deposit the amount of debts due in civil courts on behalf of their members. For this reason alone, in some cases loans sanctioned and remitted to the primary banks were returned to the Central Land Mortgage Bank. It is very essential that this serious gap in legislation should be filled very soon.

Some measures were taken by the Government to minimise the delay. A recent amendment to the Madras Co-operative Land Mortgage Banks Act is the enforcement of attendance of any person for giving information or producing documents in his possession or power before the officers or persons authorised by the Registrar. Several measures taken by and in consideration of the Registrar for securing speedier disposal of loan applications are—

“ (i) The banks are required to examine loan applications at the outset, hold a preliminary enquiry and reject such of the loan applications as cannot *prima facie* stand the tests of the Central Land Mortgage Bank. In doubtful cases, the co-operative Sub Registrars for Land Mortgage Banks are consulted.

(ii) With a view to enable the banks to obtain the necessary documents of title etc., quickly from their members, land mortgage banks were advised to make provision in their by-laws for rejection of loan applications on failure to produce documents without satisfactory reasons within three months from the date of intimation and for restoration of such rejected applications only on payment of a penalty.

(iii) Joint inspection by group directors and by the co-operative Sub-registrars for Land Mortgage Banks is encouraged and undertaken wherever possible.

(iv) At the request of the Central Land Mortgage Bank, I (Registrar) have, as an experimental measure, authorised about a dozen co-operative Sub Registrars to send direct to the Central Land Mortgage Bank the loan applications of Rs. 500 and below scrutinised by them. The results of this arrangement have to be seen and if this arrangement works successfully, the question of extending the limit of loan applications which may be sent direct to the Central Land Mortgage Bank will be considered.”*

While it is gratifying to note that steps are already taken to eliminate the Deputy Registrar in the case of small loans, the elimination must be complete. For the scrutiny of the land value, repaying capacity etc., is made by the supervisor, director and Sub Deputy Registrar. An efficient staff at the Central Land Mortgage Bank which finances the move-

ment carefully scrutinises the various applications. Hence there is no necessity for a Deputy Registrar. Surprise visits by the Registrar to check the work of the Sub Deputy Registrar will have a salutary effect on him. If the Deputy Registrars' are eliminated and in their place more Sub Deputy Registrars are appointed with jurisdiction over a smaller area, the delay in the sanctioning of loans may be minimised. The delay in securing encumbrance certificates, etc., may be avoided if, as in the case of land revenue or taccavi loans, the land mortgage banks have the first claim on the member's property. The Board of Directors should meet immediately on the application for loans and try to dispose of the applications at one or two meetings.

The general cry is that Land Mortgage Banks are not making small loans to small agriculturists. The statistics provided earlier will show that between 1929 to 1938 the number of loans below Rs. 500 is 766 and the amount Rs. 2.63 lakhs out of Rs. 164.43 lakhs. The percentage of the amount of such loans to total loans forms only 1.6. The difficulties in making loans to small ryots are that they may not satisfy the business tests as to security, repaying power etc., imposed by the bank or the administrative expenses involved in the scrutiny and valuation of lands in connection with the sanction of such loans may not be adequately covered by the fees realised from the applicants for loans. It is however necessary that any difficulty in the way of granting such small loans should be removed. Though the Agriculturists Loans Act is the best agency for the grant of such small loans, land mortgage banks also should aid in the supply of such loans.

It is often said that the land mortgage banks have not done anything to promote agricultural industry except for transferring the burden of unproductive debt from private money-lenders to organised banks. This observation is partly true. Of course the by-laws of primary land mortgage banks provide for the grant of loans to members for redemption of mortgages, redemption of other prior debts, improvements of land and methods of cultivation and for the purchase of land in special cases so as to enable the ryots to round off their holdings and work them more economically. In actual working all the loans advanced by the banks are intended for the discharge of old debts of the borrowers. Hardly any loans were issued for the purpose of land improvements. Moreover the first preference is given for the redemption of mortgages and discharge of prior debts. The Royal Commission on Agriculture and the Central

Banking Enquiry Committee have drawn pointed attention to the grant of loans for land improvement. The Royal Commission on Agriculture has also remarked that part at least of the allotment under the Land Improvement Loans Act should be at the disposal of the land mortgage banks provided that steps are taken to ensure its utilization on objects which fall within the scope of the Act. The Commission also pointed out that whilst there was some demand for facilities to repay old debts or redeem mortgages there was no strong demand for long-term money for land improvements. The Reserve Bank of India rightly observed "though pre-occupation of land mortgage banks with the liquidation of old debts was inevitable in the beginning and was probably a necessary step to clear the ground before any work of a constructive nature could be undertaken, we deprecate too exclusive concentration on that object to the neglect of the more important work of supplying finance for the improvement of land which would be productive of permanent benefit to the agriculturist. It is true that the demand for this kind of loan is small at present. There can be no doubt, however, that there is need for improvement in many directions. For works of permanent improvement such as the erection of bunds, the installation of power units, levelling, fencing etc., on a large scale, the digging of wells, reclamation etc., the expenses of which can only be met out of the return from the increased production over a series of years, long-term loans are necessary and land mortgage banks will be failing in their true purpose if they do not undertake this kind of finance. If people will not come to the bank of their own accord for such assistance, it will be necessary for the banks to carry on propaganda for the purpose. . . . Special efforts might be made in selected areas and help might, in the beginning, be confined to people approved and recommended by the co-operative societies. As the lack of compactness of the holdings often makes land improvement works unprofitable or impossible, land mortgage banks should also directly or indirectly encourage schemes for the consolidation of holdings." The loan given for land improvement should be disbursed in instalments as the work progresses after satisfying that the previous instalment has been properly utilised. The Agricultural Department which is mainly concerned with the improvement of land might co-operate with the land mortgage banks in propaganda and education, assistance to prepare suitable schemes for financing and examination of technical aspects. Regulation under Section 32, clause (2) of the Land Mortgage Banks Act makes clear the term "improvement of agricultural land." Mr. Giri, in his address at the Tenth

Land Mortgage Bank Conference, stressed the need for loans for land improvement and emphasised careful study of the question of the grant of loans by land mortgage banks for utilising the electric power for the promotion of agriculture.

The Central Land Mortgage Bank is of opinion that it is not advisable to start banks in dry districts which are almost rain-fed and where there is no certainty of crops. The present policy is the starting of land mortgage banks in dry tracts where definite sources of irrigation either from tanks or from wells are available and there is certainty of crops. This policy is based on the principle that the success of the mortgage bank movement depends upon the prompt repayment of equated instalments by members because the source of capital is through debentures and nothing should be done to upset the confidence of the investing public. The debenture-holder must be paid on the due date and to ensure this, either there should be no failure of crops or some other institution must bear the burden of such temporary losses. The only remedy for such dry tract is the establishment of land mortgage banks which grant loans over a long period of forty years. The loans should be postponed in the years of failure of crops and collected in years of good harvest. The Committee on co-operation in their discussions suggested a temporary diversion of a portion of the Famine Relief Fund for meeting the obligations on the Central Land Mortgage Bank during periods of distress and failure of crops and for reimbursing the money in good years. This appears to be a sound proposition. The alternative would be for the Government to arrange the finance direct in those areas. Government unlike a bank can afford to bear a loss to improve the lot of a section of unfortunate taxpayers. In fact it is the duty of Government to undertake such business when an organised institution cannot profitably help those agriculturists in the dry areas.

Loans by mortgage banks in America are over forty years. In Europe it is even longer, and in Australia, the period in the Credit Foncier of Victoria is more than thirty years. The Emergency Farm Mortgage Bank Act of America allowed grant of loans for as much as 75% of the value of land; provision was made for granting on second mortgage up to 75% of the value of property; and power was given to land banks to postpone principal payments to worthy borrowers. While such measures are possible in other countries, extension of the period of loans at least to thirty years in the Madras Presidency will not lead to a slackness

in the payment or other complications as the Reserve Bank believes. The Townsend Committee on co-operation, the Indian Central Banking Enquiry Committee and Mr. Sathianathan recommended an extension of the period of loans. Such extension will result in a greater number of borrowers, whose paying capacity is less, taking loans from the land mortgage banks.

It will be in the fitness of things if, after the scaling down of debts by the Madras Agriculturists' Relief Act and the Conciliation of debts by the Debt Conciliation Board, land mortgage banks take up the financing of the debts of such borrowers. Before the Madras Agriculturists' Relief Act was passed into law, some of the primary land mortgage banks attempted to scale down the debts of the members by persuasion with varying results. The amounts scaled down by such efforts are—

Amounts written off by creditors of members of Land Mortgage Banks			Rs.
1934-35	..	..	38.191
1935-36	..	..	55.203
1936-37	..	..	1.56 lakhs
1937-38 till the passing of the Agriculturists' Relief Act	..	..	1.08 lakhs.

The scaling down of debts of Rs. 1.56 lakhs in 1936-37 is against Rs. 39 lakhs lent out by the banks. In the Chidambaram Land Mortgage Bank in nine cases with debts amounting to Rs. 10,550 in 1937-38 the amount scaled down was Rs. 141-6-7 only. A co-ordination of debt conciliation boards with land mortgage banks will result in greater achievement. The office-bearers of land mortgage banks should be connected with conciliation boards wherever possible. The Central Banking Enquiry Committee recommended the utilisation of the Co-operative movement for payment to the lender of the amount payable under the terms of settlement. The Reserve Bank of India is also of the same opinion.

As a measure of safety for land mortgage banks and prudence on the part of borrowers, members of land mortgage banks may take endowment life insurance policies and assign them to the bank or take a dis-mortgaging policy. This policy of dismortgaging by means of life insur-

ance has met with favour in Germany and other European countries. This scheme was suggested by Von Hecht, a student of agricultural credit institutions in Europe and adopted by the Landschaft. Insurance was insisted upon by the Central Land Mortgage Bank in all cases of loan applications above Rs. 5,000 prior to 1937. The advantage of this scheme is, where the borrower dies after two or three years of the grant of loan, the insurance company will pay the bank. If he survives, he will at the end of the period, when the policy matures, receive a substantial sum. This scheme can be very easily adopted in Madras for loans above Rs. 1,000. The scheme can be made more easy for adoption if the period of loan is extended to 30 or 40 years and consequently the instalment to be paid to the bank is reduced. It will be sufficient if the borrowers take a policy for half the amount they take as loans and assign it to the bank.

In its Statutory Report, the Reserve Bank of India suggested that the land mortgage banks in their granting of loans should not run the risk of committing the same error as the Co-operative Credit Societies did in the past and thus find themselves with their assets frozen. "A cultivator who is habitually running into debt cannot be saved merely by the grant of longer instalments with lower rates of interest. He must be trained and disciplined in the use of money and if he is living in a deficit economy, attempts should be made to increase his margin of profit. The old co-operative ideal was to make a man undergo a period of probation in a co-operative society and liquidate his old debt only after his fitness for this purpose has been tested. The present system in vogue in many places of taking up debtors without any previous knowledge and looking only to the security offered by them can hardly be said to have any real co-operative element in it. The security of land, as has been demonstrated more than once proves more an embarrassment than an asset when it has to be realised on a large scale so that even a land mortgage bank must look more to the paying capacity of the debtor than to the mere value of his assets. We consider it highly desirable that arrangements should be made for the person whose debt is to be paid by the land mortgage bank to serve a period of probation with a good primary credit society and that even after the land mortgage bank has advanced him a loan, he should continue to be a member of a multi-purpose society so that regular repayment of his instalments may be ensured by proper supervision of his activities.*" The recommendation of the Reserve Bank is made with the

*Statutory Report—Reserve Bank of India

best of intentions but though it is very fine on paper it cannot be adopted practically. The reason is the primary credit society itself is to be reconstructed on sound lines and attempts are being made in that direction. The land mortgage banks should not suspend their business till such time the Co-operative Societies are based on sound lines. That period is indefinite. Hence land-mortgage banks should proceed as they are at present and no clause insisting on probation in primary societies should be included. Moreover the close scrutiny of the security and the repaying capacity of borrowers will stand the land mortgage banks in good stead.

It has been suggested that the Central Land Mortgage bank should try, as early as possible, to free the debentures of Government guarantee. At present Government guarantee of principal and interest is essential and because of such guarantee the Central Land Mortgage Bank is able to attract funds from local bodies, municipalities, co-operative institutions and other trusts. Debentures can be made independent of Government guarantee only when the Central Land Mortgage Bank is able to establish a name in the money market and draw its funds from big commercial firms, insurance companies and other individuals who seek long-term investment. At present, insurance companies which own huge amounts invest only small amounts in debentures and hold the bulk of their investments in Government securities. If the funds of the insurance companies are turned to land mortgage banks it will be a great help to agriculturists. The bank should employ a reputed firm of brokers to transact more business through them for the issue and purchase of its own debentures. Debentures should be floated in one lump sum instead of being floated piecemeal throughout the year. The Reserve Bank of India being quite conversant with the money market can undertake to float the debentures of the Central Land Mortgage Bank at the right time. During the interim period an overdraft should be granted to the Central Mortgage Bank by the Reserve Bank of India. If the Reserve Bank of India can invest a portion of its funds in debentures or advance money on the security of debentures, the popularity of debentures will be enhanced. The Reserve Bank feels that it has to maintain absolute fluidity of its resources and therefore cannot lock up the funds in the debentures. This attitude of the Reserve Bank is very discouraging especially when the debentures are marketable. Above all the Central Land Mortgage Bank should build a strong reserve.

Some other suggestions are that the Central Land Mortgage Bank should deal directly with some big borrowers to whom the primary banks are incapable of lending. Such loans are granted by the Land Banks of the United States of America without the intermediary of the Farm associations. Big loans up to 50,000 dollars by the Land Banks of America and up to 4000 (Rs. 42,000) by the Credit Foncier of Victoria, Australia, are given to borrowers. Such big loans can be given to needy zamindars and big landholders by the Central Mortgage Bank direct. If loans could not be given by the central institutions, well-organized joint stock land mortgage banks should be started. As the Central Banking Enquiry Committee says, Government should take an initiative in the starting of such banks. A credit Foncier Bank on the model of the Victorian institution of Australia may be started by the state and the postal savings bank may invest funds up to 20% of its deposits in the debentures of such a bank. The rest of the amount can be secured by debentures either through the Central Land Mortgage Bank or separately.

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